NeKo™ **LX5**
NeKo™ **LX5 keyboard production station (Gen5)**

Operation Manual

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Users Manual written by: James Edwin Rhone Jr.
Editors: Ed Ablan, Christopher Brown, Steve Miller
Super special thanks to the Open Labs Development Team for your efforts and meticulous attention to detail. You have truly made this a great product.

Open Labs

Using the NeKo LX5 safely

Before using the NeKo LX5, it is extremely important that you thoroughly read the following instructions. This will provide you with the information needed for safe operation of your NeKo LX5. Please continue reading the rest of this manual for specific information on the use of this unit.

 Warning

To avoid permanent health damage, always adhere to these important safety advies:
- The NeKo LX5, in combination with headphones or speakers, is capable of producing sound levels that can cause permanent hearing loss. Do not submit your ears to long periods of high volumes. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
- Do not open the NeKo LX5 or attempt to disassemble or modify the internal parts without prior guidance and/or instructions from an Open Labs Technician. If the NeKo LX5 does not seem to function properly, contact Open Labs technical support.

 Caution

To ensure that the NeKo LX5 or any device connected to it is not damaged during usage or maintenance, it is important to adhere to the following instructions.
- Do not expose the NeKo LX5 to inclement weather conditions such as heavy rain, or use the unit in damp or wet conditions. It is unwise to place open containers of liquids near the unit, these could spill onto the unit. Do not allow any objects or liquids to penetrate the unit.
- Never use or store the NeKo LX5 in conditions that are subject to extreme temperatures. This mostly includes closed in environments where lots of heat and direct sunlight are present (example, enclosed vehicle).
- Do not place the NeKo LX5 in unsuitable locations where the chance of falling could happen.
- Before connecting the NeKo LX5 to other electronic components, turn off the power for all components. Before turning the power on or off for all components, set all volume levels to minimum. Gradually raise the volume control while playing the NeKo LX5 to set the desired listening level.
- Before moving the NeKo LX5, disconnect all cables.
- Be careful not to exert too much pressure on the knobs, faders, or touchscreen,.
- When cleaning the NeKo LX5:
  - Use a soft, dry cloth.
  - To clean the touchscreen, use a lint free cloth or soft paper towel, with a small amount of light window cleaner sprayed onto the cloth or paper towel.
    - *Do not use paint thinners, solvents, cleaning fluids, or chemical based wiping cloths.*

Table of Contents

5d – Using Bump MP, the Mix Edit Panel with Riff and Guru.......................106

Chapter 6 - Playing Sounds - Karsyn..124

P r e f a c e

This Product Manual gives information about the Open Labs NeKo LX5 production station, as per Generation 5 specifications.

Manual Organization

The chapters in this User Manual are arranged as follows:

- Introduction: information and overviews of an Open Labs production station.
- Getting Started: information on preparing your Open Labs production station for use.
- First time: instructions on what to expect from the software and hardware environment of your Open Labs production station.
- Playing Sounds: instructions on how to use Riff and Karsyn to play sounds with your Open Labs production station.
- Recording: instructions on how to use the DAW REAPER with your Open Labs Production Station.
- MIDI Mapping: information about mFusion, and using mFusion to create MIDI controller assignments.
- MimiK Manual: instructions on how to mimik keyboards and MIDI sound modules.
- Hardware Maintenance: information regarding the need to make hardware changes.
- Appendix: information about preinstalled software, audio hardware. As well as an appendix for learning the basics of professional audio.

Useful Suggestions

This manual has a fair amount of information, however, from time to time you may not find what you need to know in this manual. Every application that comes with an Open Labs production station has a manual. These are usually in either a .PDF format or HELP file format, and can be located in their "c:\Program Files\Product Name" folder.

Also, Google or Wikipedia are both great resources for finding more detailed information on the application you require assistance with.

1

C h a p t e r   1   –   I n t r o d u c t i o n

Welcome to the Open Labs NeKo LX5. Please read this manual thoroughly in order to familiarize yourself with the unit. Please keep this manual in a safe place for further reference.

Open Labs creates the ultimate performance and studio instruments. Based on the OpenSynth™ platform, Open Labs production stations free you from frustrating limitations imposed by closed, proprietary systems, while still maintaining the virtues of an all in one keyboard instrument.

Open Sounds: Open Labs production stations can emulate almost any instrument ever invented by hosting industry standard VSTi software synthesizers, samplers, and audio processing plug-ins.

Open System: Open Labs production stations utilize industry standard motherboards and processors that allow you to run standard operating systems (such as Microsoft Windows), and use standard PC-compatible hardware.

All in One: Open Labs production stations all in one design eliminates the clutter and confusion of traditional desktop computer systems, so you can focus on your music.

User Friendly: Open Labs production stations enable you to change settings and access programs through an easy-to-use interface that shields you from the complexities of the operating system.

Power to Rock: Open Labs production stations can accommodate the fastest processors available, more RAM, and more storage than any other music workstation.

Low Latency: Open Labs production stations give you near-zero latency even under high processor loads.

Versatility: Open Labs production stations are so versatile, that they can run virtually any plug-in or application designed for the Windows XP operating system, including products from Steinberg, Native Instruments, IK Multimedia and many others!

Bring It!: Equipped with PCI/PCI-E slots that can accept up to full size cards, Open Labs production stations can accommodate your favorite Creamware. TC, and, Universal Audio cards, providing unsurpassed power. Open Labs production stations also features PCI-Express (PCIEX1) slots, offering even greater expansion potential.

Modern Art: With a sleek, modern design incorporating an aluminum chassis, Open Labs production stations are as beautiful as they are powerful.

Surfboard: An ethernet port allows you to directly access the Internet, and to quickly and easily download upgrades, sounds, and applications.

The versatility to grow and adapt to every musician's needs is why Open Labs production stations are unique. Extreme care should be taken when installing new hardware and software. Installing the wrong components could cause great instability to your Open Labs production station. *Please contact support@openlabs.com before hardware changes.*

Open Labs Production Station Components

DVD/CDRW Drive
Open Labs production stations come standard with a DVD/CD-writer, so that you may use it as a backup device, or to create audio CDs of your music. The DVD/CDRW drive can also be used to play CDs, DVDs, or install software.

Hard Drive
The hard drive is the main physical storage device for all your data and applications. Because hard drives are delicate devices, always treat them with care.

Power Button/Reset Button
The power switch and reset button are located in the recessed area on the right side of the keyboard.

Audio Interface
Open Labs production stations include a mutichannel audio interface. Please refer to Chapter 2 for information about the specific audio input/output features of your Open Labs production station.

USB Ports (2)
Two rear USB ports allow connections to USB devices.

Internal USB Port
All Open Labs production stations have at least one unused USB port located inside the chassis. This is ideal for USB software protection devices.

External Monitor Port
The monitor port allows you to connect any monitor with a standard VGA connector to your Open Labs production station.

Ethernet 10/1000
The Ethernet port will accept a single high-speed cable connection. This will allow you to share files, print, and access the Internet.

DIMM Expansion Slots
If your Open Labs production station is currently fitted with less than 4GB of RAM, you can install additional memory. Open Labs production stations support 240-pin, DDR2 DIMMs. Call technical support for details about expanding an Open Labs production station's memory capacity.

PCI/PCI-E Expansion Slots
PCI and PCI-Express slots are for adding additional hardware boards such as I/O cards, DSP cards, or additional graphics boards. Add-in boards should all be Microsoft Windows XP compatible. If you are unsure, please call Open Labs technical support.

Performance Controllers
An Open Labs production station's top panel contains a variety of faders, knobs, buttons, a DJ A/B fader, and drum pads. All of these may be mapped to control the functions of various applications, instruments, sequencing software, etc.

Touchscreen Monitor
Open Labs production stations comes with a touchscreen monitor. The touchscreen can be accessed using your fingertips, or a plastic stylus. The touchscreen provides an alternative method of inputting commands. It can be used by itself as the sole source of command input, or it can be used in conjunction with the built-in keyboard and track pad, or a standard keyboard and mouse.

About the Touchscreen Monitor

Here are a few techniques that will help you get the most out of the touchscreen:
- Rather than using the flat portion of your finger, use your fingernail. By using your nail, you make contact with a smaller portion of your finger and get greater accuracy.
- To have a "right-click" effect with your finger, tap and hold down on the screen with your finger. In a moment, the right-click options will pop up for you.
- For fine details, use the supplied touchpad. Either use a finger on the touchpad with a thumb on the left button for clicking, or use two hands.

2

C h a p t e r   2   -   G e t t i n g   S t a r t e d

Unpacking and Setting up your Open Labs Production Station

The first time you open the box, you should ensure that all the parts are enclosed. Because each Open Labs production station may be customized with different options, you should validate its contents with your order. Ensure that all components are included and that none of them were damaged during shipping.

Select a flat tabletop near a stable power source, preferably one that is surge-protected, or an uninterrupted power supply (UPS) to unpack your Open Labs production station. Network availability is also a plus, especially if you plan to transfer work through a local area network (LAN).

Rear Panel Layout

On an Open Labs production station's back panel you will find:
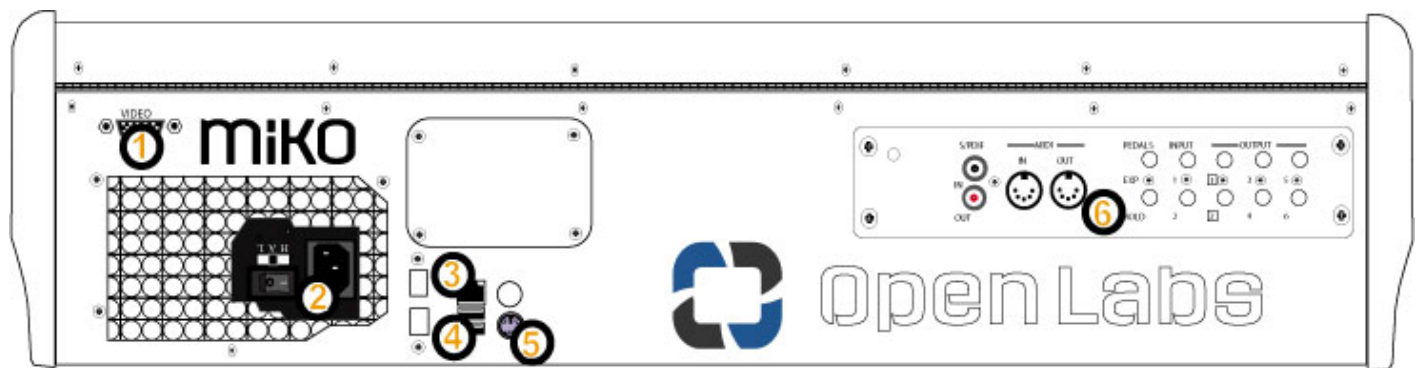
1. VGA monitor out port
2. Auto voltage switching power supply
3. Firewire 400 port
4. Ethernet (10/100/1000)
5. Two USB ports
6. PS/2 keyboard connector
7. Audio/MIDI I/O panel

Audio & MIDI Connections

Open Labs production station's back panel provides six analog outputs, two analog inputs, stereo S/PDIF digital I/O, and MIDI I/O. An additional coaxial digital output is located to the left of the stereo S/PDIF I/O connectors. This output can be used to send stereo or multi-channel (up to 7.1) audio to an external decoder, typically the digital audio inputs of a home theater system.

Rear Panel I/O:
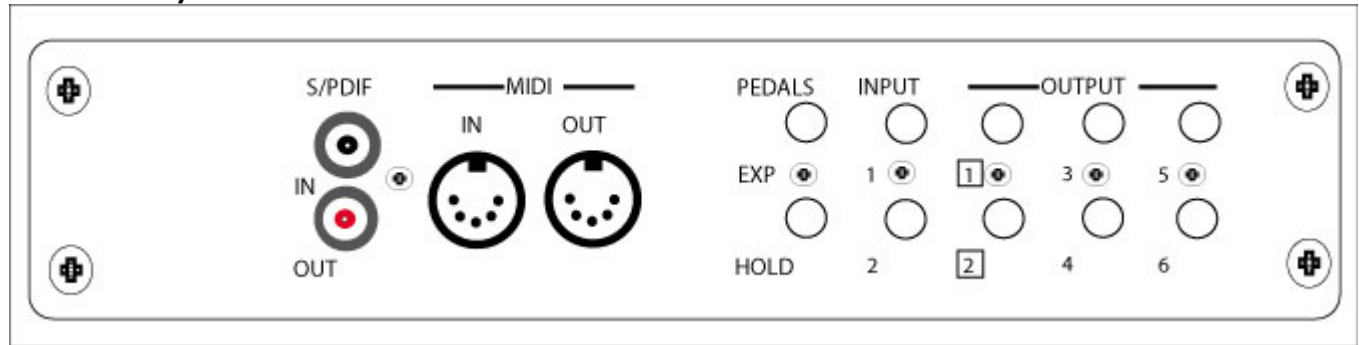
See the end of this chapter for examples of connections to the various inputs and outputs.

Front Panel Audio Interface

There is also an audio interface located on the front of Open Labs production station, providing two more audio inputs and an output for headphones.
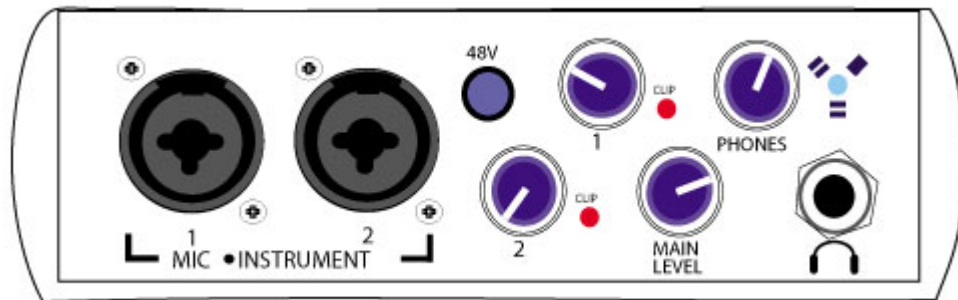
The two inputs on this panel serve as preamps for either microphones or instruments (as opposed to the rear panel inputs, which are appropriate for line-level signals). Phantom power may be turned on for use with condensor mics.
Both of the inputs utilize the Neutrik Combo connector, which lets you use either 1/4" phone or XLR connectors.
The 1/4" connectors are for use with an instrument (guitar, bass, etc.). When an instrument is plugged into the instrument input, the microphone preamplifier is bypassed and the interface becomes an active instrument preamplifier.
Note: Active instruments are those that have an internal preamp or a line level output. Active instruments should be plugged into a line input (located on the back) rather than into an instrument input. In other words, don't plug an active instrument into the combo jacks on channels 1 or 2.

48-volt Phantom Power
Pressing this button will send phantom power to the mic inputs. When on, the button will light up.

Input Gain Control
Each channel has an input gain control knob and associated clip light. The following gain structure is provided for each channel:

Microphone Input XLR: 45dB of variable gain (+14dB to +55dB)
Instrument HiZ Input TS 1/4": 45dB variable gain (+8dB to +50dB)

Clip Indicator: The clip indicator will light up if your input signal from the XLR (Mic) or ¼" (line) reaches +18dBu (0dBfs). At this level, your mic preamp/line trim signal may not exhibit signs of clipping such as distortion. However, this level will cause the A/D (analog to digital) converters to clip. Therefore, it is highly recommended that you do not allow your converters to clip (the clip indicators to light up) as the sound quality will not be desirable.

Main Level: This knob allows control over the output level. It has a range of -80db to +10dB.

Headphone ¼" Jack: This is where you connect your headphones.

Phones Knob: The phones knob controls the amount of volume going to the headphone output on the front of the unit. Notice the volume indicator goes to 11 (loud). *Use this setting with caution*.

Red-Blue Power/Sync Light: This light is a clock (sync) indicator. It lets you know if your unit is receiving wordclock correctly. Wordclock is the manner by which digital devices sync frame rates. Proper wordclock sync prevents digital devices from having pops, clicks, or distortion in the audio signal (due to mismatched digital audio transmission).

- Blue – solid sync
- Red – sync not present.
- Flashing Red and Blue – external sync not present

Please note:

1. Open Labs production stations have cooling vents on the back panel and on the underneath the chassis. Make sure that none of these vents are obstructed.
2. There should be ample room on the left side of your Open Labs production stations to allow for the DVD/CD-ROM tray to eject without obstruction.

Connecting the Cables

Open Labs production stations contain all the common interfaces you would find on a computer workstation. On the back panel you will find two USB ports, one VGA-monitor port, Ethernet port (10/1000), Firewire 400, PS/2 keyboard, the audio I/O connectors, MIDI I/O and pedal inputs.

Before powering the Open Labs production station:

Connect the system to an uninterrupted power supply. ***The NeKo LX5 has an auto voltage switching powersupply.***
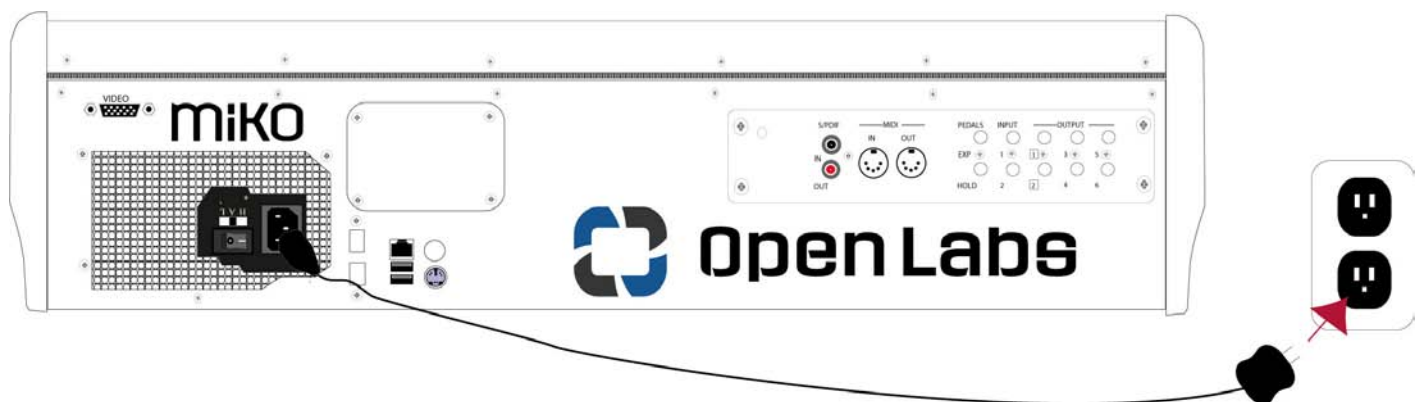
Connect your Open Labs production station's audio outputs to your monitoring system.
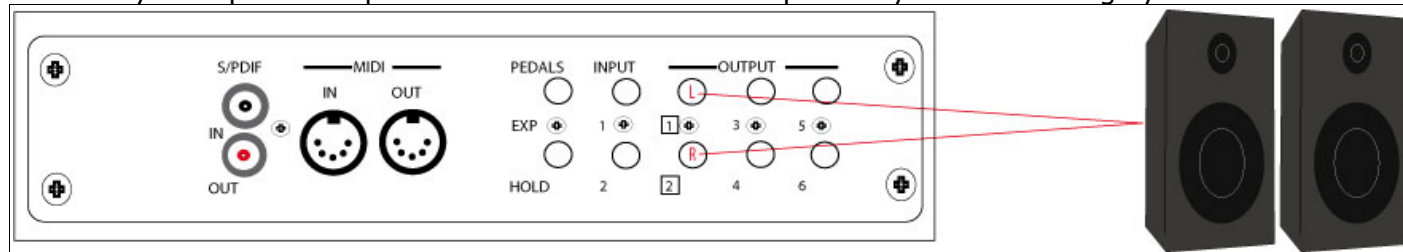
-or-

1. Main Volume Control
2. Headphone volume

There are two power switches on the NeKo LX5. One is located on the power supply in the rear, and the other power switch is located on the right side end bell within the recessed area. **The NeKo LX5 has an auto switching powersupply.**

The main power button diagram
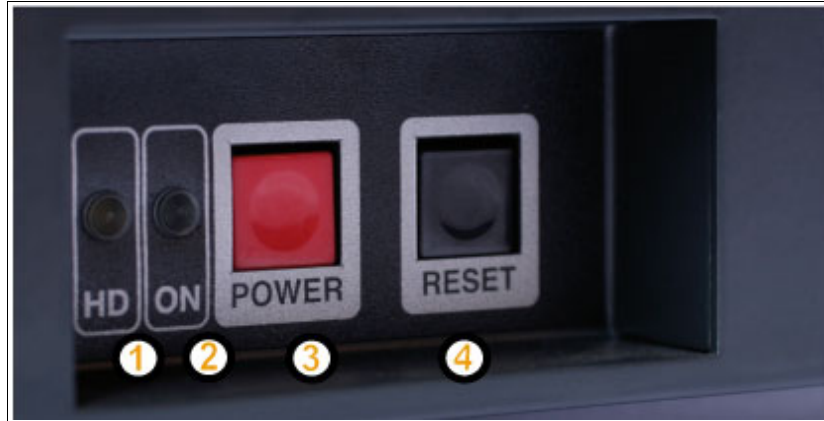
1. Hard Drive Activity Light
2. System Power Indicator - Shows a green light when the unit is powered on.
3. Main Power Button - Use this button to start the NeKo. *Holding this button down will force the system to shut down.*
4. Power Reset Button - *Pressing this will perform a hard reset of the system.*

Power supply power button diagram
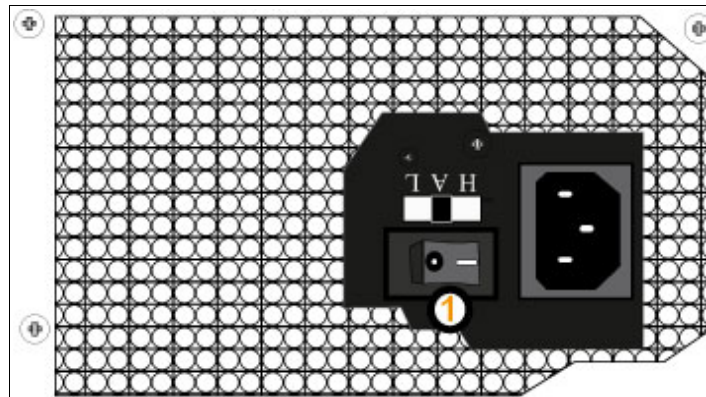
1. This is the switch that turns on the power supply, it is necessary to have this in the "ON" position before the machine will power up. The button itself has two symbols upon it, a circle and a straight line, the circle is "OFF", the line represents "ON".

Connect to your Open Labs production station any external items you plan to use, such as USB devices, an external video monitor, additional MIDI-equipped devices, sustain pedal, etc.

Basic Connection Diagrams

The following picture shows examples of the rear audio and MIDI connections.
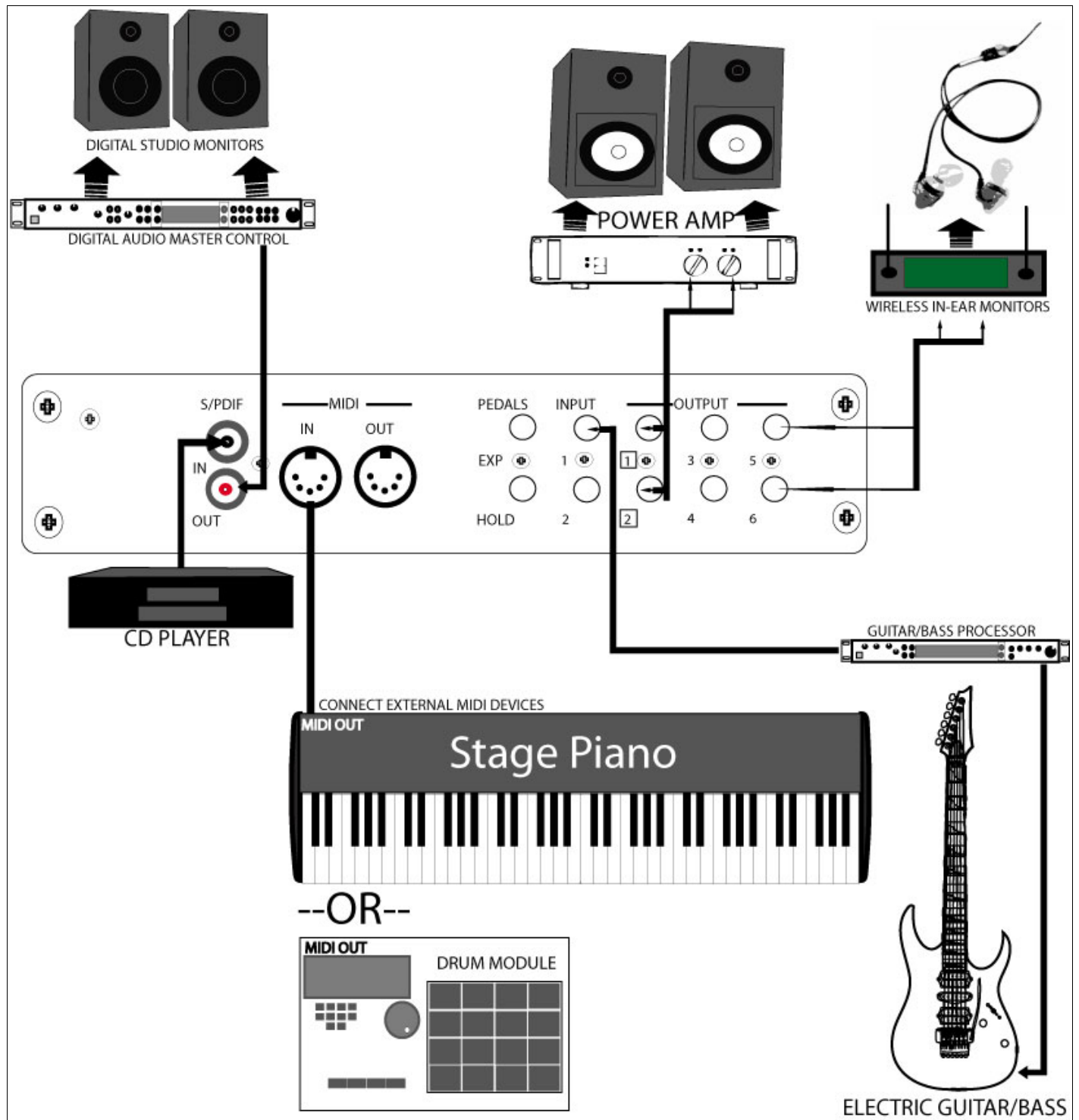
The following picture shows examples of the front audio connections.

48V
CLIP
1
PHONES
CLIP
2
MAIN
LEVEL
1
MIC • INSTRUMENT
2

Condensor Mike

Acoustic Electric
Guitar

Stereo Headphones
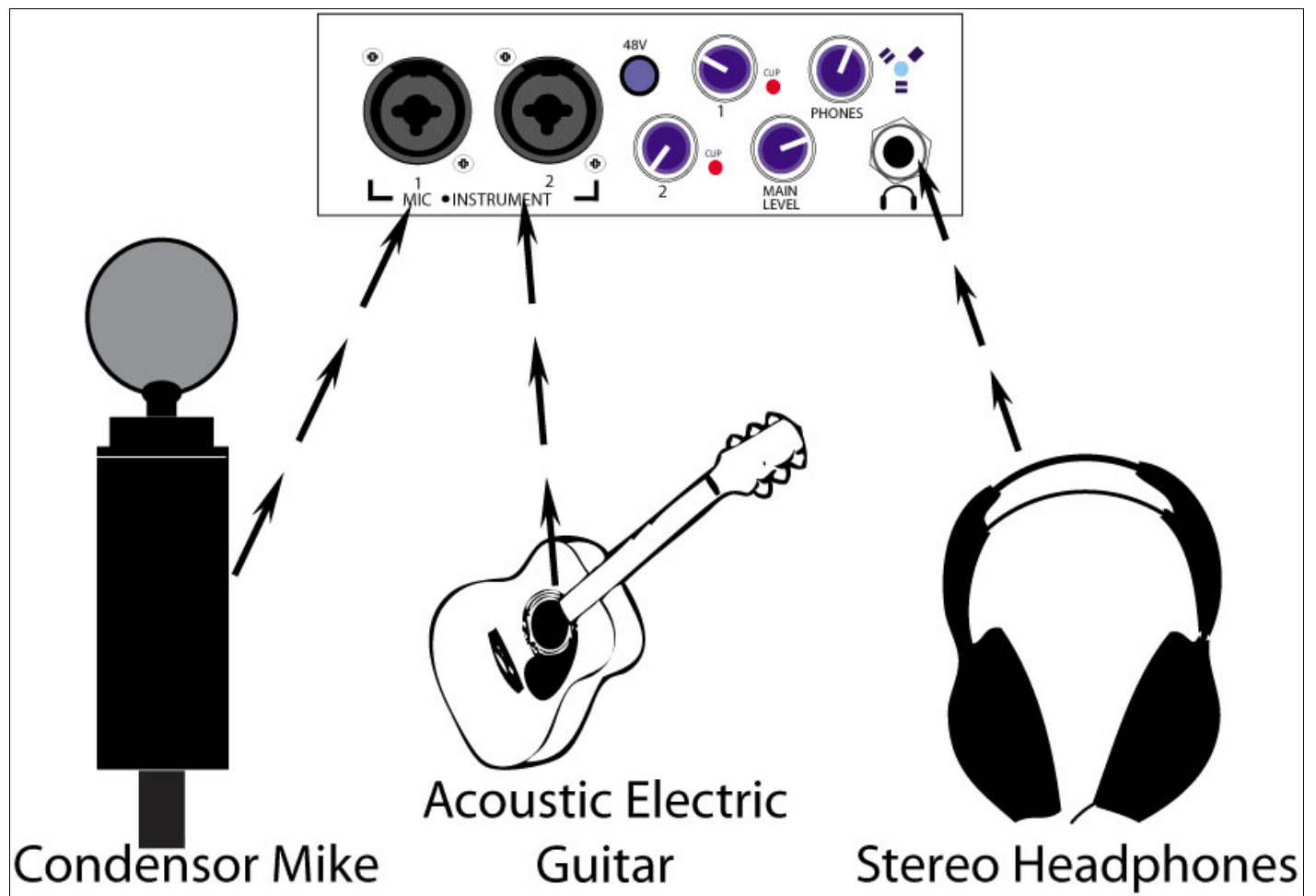
Turning on an Open Labs production station

There are two power switches on an Open Labs production station. One is located on back of the power supply and the main power switch is located on the right side of the Open Labs production station within the end bezel.

Please note carefully:
The Open Labs production station's power supply is an auto voltage switching power supply.

The power supply also has a switch labeled "H" for High, "L" for Low, and "A" for Auto. This switch will adjust the fan speeds of the power supply. As a default it should be set to Auto.

Upon powering up, the Open Labs production station will boot up in two phases: The first phase is the BIOS phase, or the pre-Microsoft Windows phase. This is when the hardware validates that all systems are functional within acceptable parameters.

PCI devices, onboard memory, and other system devices run through a short diagnostic routine, and then the system will begin to load the operating system—Microsoft Windows XP. *It is normal for the BIOS screen to load upside down on your display. Once Windows XP loads, the screen will rotate to the correct orientation*.

Unless you plan to make immediate hardware changes, there is no need to access any of the BIOS configuration menus. If you do plan to make some BIOS modifications, you can access the BIOS by hitting the DELETE key when your Open Labs production station first boots.

About the BIOS
System BIOS is a menu where you can configure your hardware settings. The settings pertain to hardware only, and will sometimes affect your software programs if configured incorrectly. If you plan to make modifications to the BIOS, it is recommended that you contact Open Labs technical support.

The second phase loads Microsoft Windows XP. This is an optimized installation of Windows XP, meaning that it contains all the tweaks that will enhance system performance.

Since this is the "Full Version" rather than the "Embedded" version of the Windows package, your Open Labs production station has all the potential to be your most powerful sound production appliance without any hindrance to any computer-driven applications.

Any software supported under the Microsoft Windows XP platform will be supported by your Open Labs production station. After the system is fully booted, you should be in the Open Labs Graphical User Interface (GUI).

About the Open Labs GUI
The Open Labs GUI is not a standard part of Microsoft Windows XP. It is a customizable overlay to the standard Microsoft XP work environment. You can toggle between the two modes by clicking on the Open Labs icon (located in the lower left-hand corner of the screen), select Quit, and then select Go To Windows. You can always reinstate the Open Labs GUI by accessing the shortcut (named "Open Labs Shell") provided on the desktop.

For more information about the Open Labs GUI, see chapter 3.

3

C h a p t e r   3   –   F i r s t   T i m e

The first time you power up your Open Labs NeKo LX5 it loads directly to Riff, once you close Riff, you may realize that the screen looks nothing like Microsoft Windows XP. The look is the Open Labs Graphical User Interface that will enhance your productivity, especially in combination with the touchscreen.

The Open Labs GUI In Detail

The GUI, or graphical user interface, is a customizable shell that allows the launching of applications from a single location. This GUI is optimized for use with a touchscreen and for musical performance. Traditionally, within the Microsoft Windows environment, you would have to make shortcuts for applications you use most often, and arrange them on your desktop or system tray for easy access. Because these items are often masked by open applications and windows, you may have to reposition your windows every time you wish to initiate a new application. Starting programs via the 'Start' button is also not ideal, because the program groups contain all installed programs, rather than just those few applications you use the most.

The Open Labs GUI is designed to allow access to the programs and tasks that you will use most frequently with your Open Labs production station. After powering up your Open Labs production station, Windows XP will launch, followed by the Open Labs GUI. You will notice right away how the GUI organizes and simplifies the tasks associated with making music.

Currently active applications will appear on the taskbar. If there are more applications open than will fit in the taskbar at once, you can scroll left and right using the arrows in the lower right-hand corner of the screen.

Clicking on the Open Labs icon in the lower left-hand corner will reveal shortcuts to a variety of applications and files.

The picture below shows GUI screen, and the first level of buttons displayed when you click the Open Labs icon.

Starting from the bottom, the icons will be explained.

QUIT
Clicking on this button will give you the following options:

- **Go To Windows:** This button will close the Open Labs GUI and take you to the standard Windows XP desktop.
- **Shut Down**: Use this to turn your Open Labs production station off
- **Restart**: Use this to restart your Open Labs production station.

CONTROL PANELS
The Control Panels button provides access to utilities that you might need while working on your Open Labs production station. When you click on the Util button, you will see the following options:

- **Audio:** The Audio button directs the controls for your sound card. When you click the Audio button you will see the following options:
  - *Control Panel*: Launches the sound card control panel, from here you can adjust latency, sample rate, and boost input volume.
  - *Mixer:* This button launches the sound card mixer panel.

- **MIDI:** Launches the mFusion Control Panel. See Chapter 6 for information about using mFusion.
- **Touchscreen:** Use to calibrate your touchscreen and display settings.
- **System Backup:**

HELP

The **Help** button gives you access to various forms of information regarding your Open Labs production station. When you click the Help button you will see the following options:

- **Tutorial Videos**: You will find video tutorials that will help you make recordings and play sounds.
- **Manuals**: Will take you to a folder containing user guides and manuals.
- **Open Labs Forum (Requires an Internet connection)**: To gain access to the Open Labs on line community, and technical support forums use this link: (http://forum.openlabs.com).
- Forum access requires registration.

ONSCREEN KEYBOARD

The **Onscreen Keyboard** button will display a graphical representation of a standard computer keyboard for touchscreen entry of alphanumeric input.

APPS

The Apps button is a way to access various programs installed on your Open Labs production station. When you click the Apps button you will see the following options:

- **Burn CD-DVD:** Launches a CD/DVD burning program.
- **Play Media**: This button launches Windows Media Player, for the playback of media files.
- **Translator**: Launches a file conversion program.
- **Internet**: Launches the Firefox browser for gaining access to web pages.

MIMIK KEYBOARD

Launches the **MimiK** keyboard cloning software. For information on using MimiK, refer to Chapter 8.

RECORD/SEQUENCE

This button will launch the MIDI/audio sequencer bundled with your Open Labs production station, which is **REAPER**. For information about using Reaper see Chapter 7.

PLAY SOUNDS

You can use this button to launch either Riff, or Karsyn. The programs are VSTi hosts, and allow you to play sounds on your Open Labs production station.

- Information on using Riff can be found in Chapter 5.
- Information on using Karsyn can be found in Chapter 6.

About the MIDI Controllers

Open Labs production stations offer the following control surfaces:

- Mix Edit Panel (faders, rotary knobs and buttons)
- DJ/VJ Controller (A/B crossfader, knobs, buttons)
- Bump MP

Both of these are actually programmable MIDI control surfaces. Open Labs production stations ship with MIDI control maps for use with the installed applications (Karsyn, REAPER, and so on), but you can also create your own custom maps to use with any MIDI application.

Mix Edit Panel
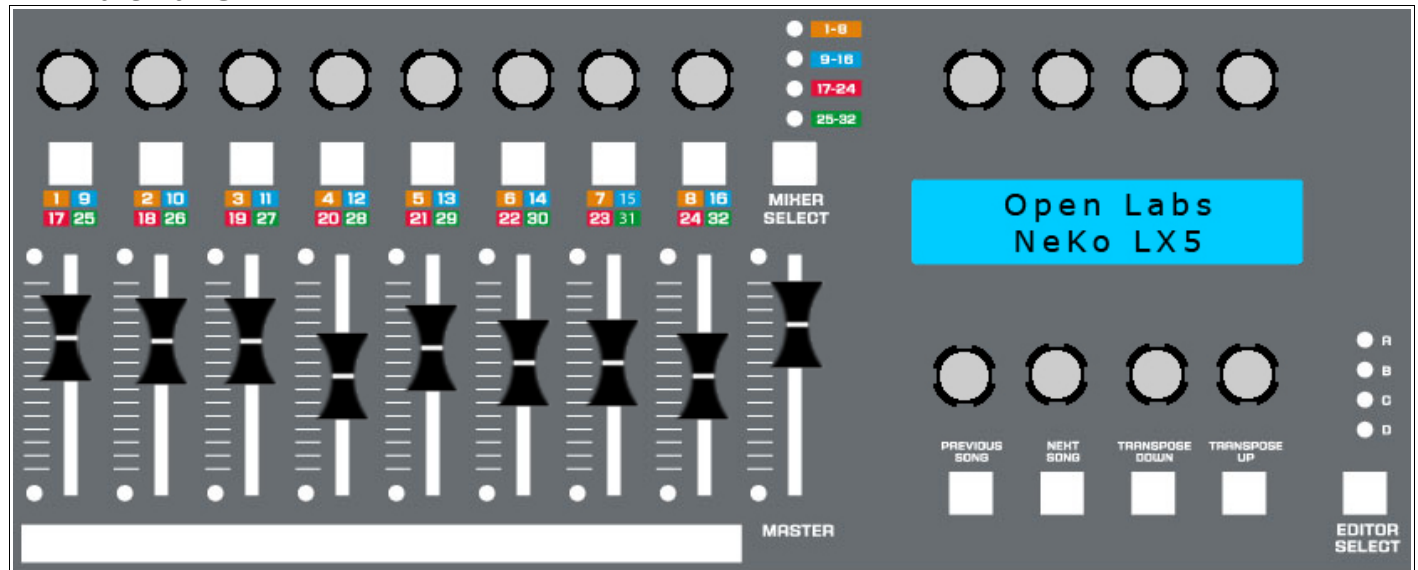
The **Open Labs Mix/Edit Panel** features two sections of controls:

1. The *Mixer Section* is designed for mixing, and is laid out like most common third party DAW controllers. It features eight channel strips, each with a knob for panning, a button for muting, and a fader for volume control. Plus one fader dedicated to the master bus. Also, the mixer section features a bank button for quick access to four banks. This gives you 32 channels of control in Reaper, or any other MIDI mappable DAW you wish to use.

   Feedback is provided in two ways. For each bank on the Mixer section (A, B, C, and D) there is an LED light indicating what bank is selected, plus each bank is labeled 1-8, 9-16, 17-24, 25-32 in a color code. Above each fader is the track numbers listed in color code. This gives the user a visual display on what track channel they are about to adjust. The other method for feedback is the white scribble strip below the controllers. This will be made material supporting dry erase markers and lets the user write on the panel. This is useful in a studio environment and live. For example, some keyboardists like to use faders for draw bar control. With the scribble strip they can write which draw bars are being controlled.

2. The other section is known as the *Edit Section*. The Edit section features eight rotary encoders, four back lit buttons, a four-way bank button (like the Mixer section) and a 40 (8x5) character LCD display to give you feedback on what you are controlling. You can change the text on the LCD via Mfusion, and label it as you wish, along with assigning the encoders to a desired parameter. In the studio, this section will function as a channel strip, giving you access to the most common used functions such as volume, pan, mute, solo etc. With the push of the Edit Panels' [Bank] button, the LCD and encoders change to control your selected tracks Gate, another push of the bank button changes the above to control your tracks EQ, and another bank button push to control your selected tracks Compressor.

DJ/VJ Controller
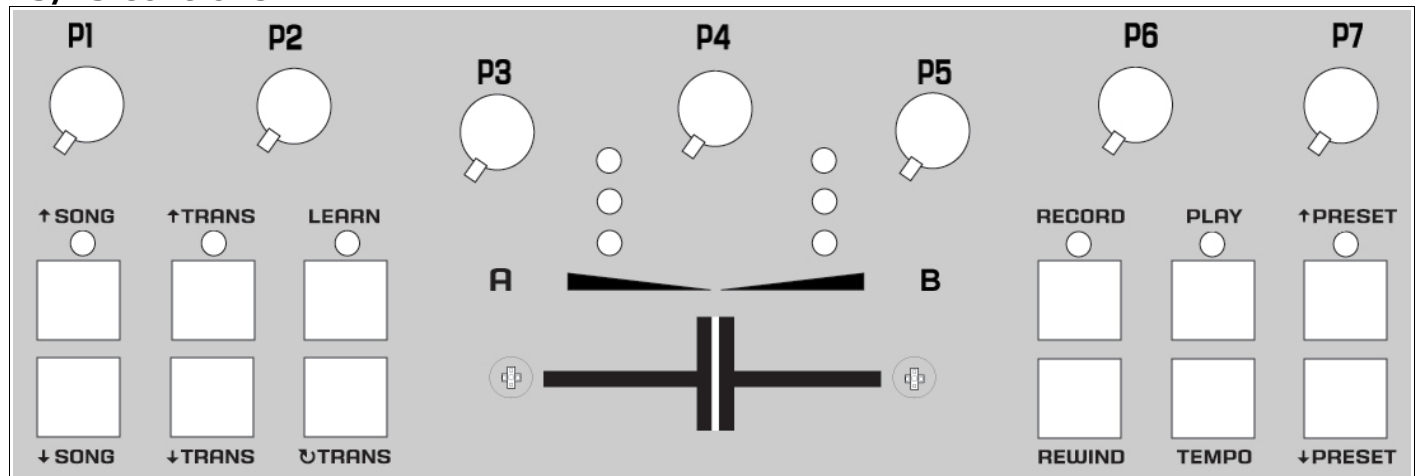
The DJ/VJ controller contains 12 buttons, one A-B crossfader, and seven knobs. The buttons are all freely assignable, but have been designed and labeled to support specific system operations and software function.

Bump MP
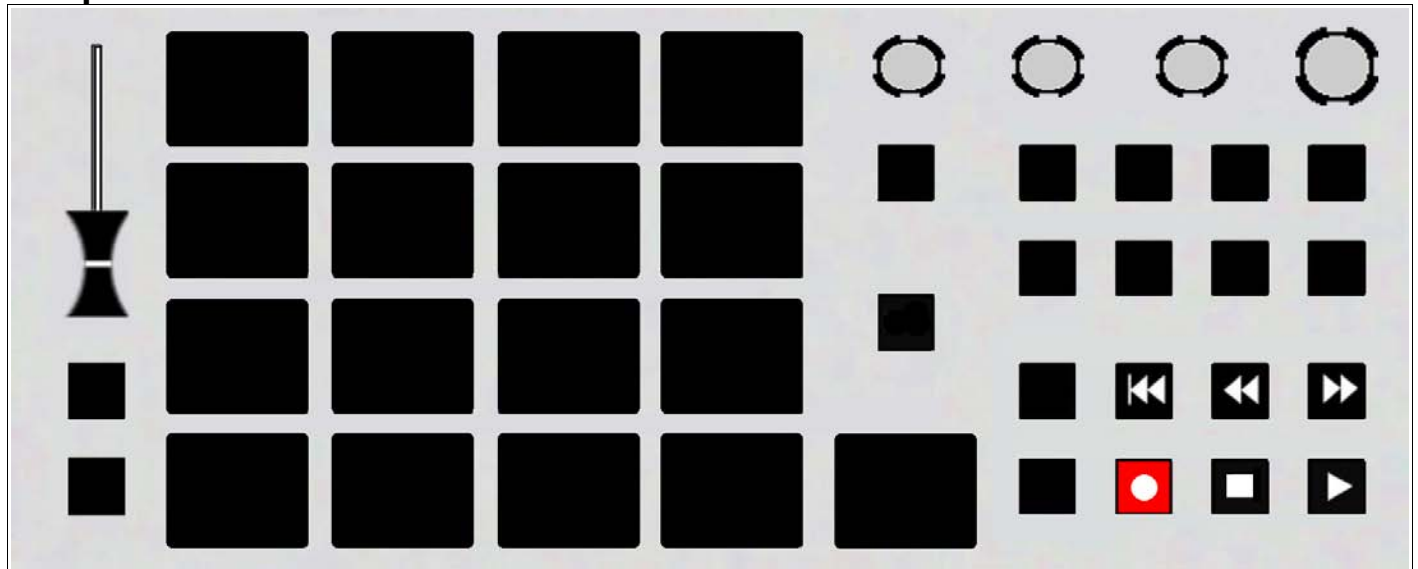
The NeKo LX5 offers a new controller, the Bump MP. This controller offers tons of features to give you a drum machine style experience. Here are some of the features of this fine controller.

- Fixed Level controls
- Note repeat button with quantize knob
- 17 individual drum pads, with the 17th pad being "last pad"
- Chromatic button
- Hold button
- Eight engines that hold 24 patterns, with eight engine buttons to select
- Commit button
- Undo button
- Transport controls

Please refer to Chapter 5d for more information on using the Bump MP.

The Track Pad

Your track pad has two main buttons: left and right. The left track pad button is mostly used to select objects, or to launch programs. The right track pad button is used to call up auxiliary menus and properties of objects.

In general, to access or launch an application, double-click the left track pad button while the track pad pointer is hovering over the desired icon.

To move an object from one folder to another, or to reposition onscreen icons, you can move these objects by dragging. To drag an object, position your track pad pointer over the icon, press and hold down the left mouse button, then move the object to its new location. When you release the left track pad button, your object or icon will be placed in its new location. Dragging does not always work, and it may be disabled by the program that you are using.

You can also select multiple items by grouping them using the left track pad button. When you position the pointer over an empty area on your desktop, you can hold down the left track pad button and proceed to drag a rectangle over several objects. Releasing the left track pad button will highlight all objects or icons within the area of the rectangle created by dragging the pointer.

Selecting multiple objects allows you to move and assign attributes to all the objects at once rather than doing each one individually. For example, you may wish to delete four files in your music folder. You can use this method to select the four items and then hit the DELETE key on your keyboard to send these items to the recycle bin.

Using USB Devices

The Open Labs production station comes with two USB ports on the back panel. If you require more USB ports, you can purchase a USB hub. Typically, USB devices also require you to have Windows XP USB drivers in order for the device to work properly in Microsoft Windows. The drivers are provided by your USB device manufacturer, and can be downloaded from their support site on the Internet.

Using the DVD/CD-RW Drive

The DVD/CD-RW drive can be opened by pressing the release button located below the ejection tray. Because Microsoft Windows supports bootable CDs, it is important that you do not leave any CDs that are bootable in the DVD/CD-RW drive so that you will not boot the CD accidentally. Adding CDs into the CD-RW Drive while the Open Labs production station is running will sometimes initiate pop-up menus. This depends on how the CD was written. For example, typical software installation CDs have pop-up menus to assist in installation of its software when the CD is first inserted into the DVD/CD-RW drive. Alternatively, inserting an audio CD into the DVD/CD-RW drive will initiate CD-Player to play.

The CD drive can be used to burn files onto blank recordable CDs. Recordable CDs are sold at most computer stores and provide an inexpensive method of backing up your critical files.
You may use any number of programs to burn CDs with your DVD/CD-RW drive. Microsoft Windows XP will author CDs as well. To use the Microsoft tool, navigate to the "Start" button, and then double-click on My Computer.

Double-clicking on My Computer will open a window showing all your storage devices. Insert a black recordable CD (CD-R) into your DVD/CD-RW drive and your DVD/CD-RW drive icon should change to indicate the presence of a CD-R disc.

Double-clicking on this icon will open an empty window that is empty except for a legend to the left.

Using the drag-and-drop method, you can place multiple files into the empty area within the right pane of this window. Files should start to populate this empty area. Keep in mind that the maximum amount of data you can store on a single CD-R is approximately 700 MB, or 80 minutes of audio wav files.

When you are done, select: "Write these files to CD".

Another pop-up will appear and will provide a walk-through with step-by-step instructions to complete your CD. These step-by-step pop-ups are called wizards. Microsoft loves to use wizards, and you will encounter many wizards while using Windows XP.
Simply follow the Wizard to the end and your CD will be finished.

Using the Internet
The network adapter allows you to connect a high-speed network to your Open Labs production station. Depending on your setup, the network could be local area only (just connects to other computers around you) or to the Internet. Open Labs production stations will support a 10 Mbits or 1000 Mbits network.
Anytime you connect to the Internet, it is vital that you use the same precautions as you would use with a normal computer. It is recommended that you keep Internet activities to a minimum to reduce risks of computer viruses, hackers, pop-ups, and other vulnerabilities inherent on the Internet.

Internet use for the Open Labs production station should be restricted to the following:

- Connection to Microsoft to run updates of service packs. (Please check with Open Labs support for compatibility of Microsoft updates).
- Technical support with Open Labs.
- Updating virus definitions for your anti-virus protection.
- Collaboration with other musicians in sharing of music.
- Network printing and local file sharing.

Adding Software to your Open Labs Production Station
Adding new software to your Open Labs production station is not unlike adding software to your home computer. The process still requires that you have the software, either on a CD ROM or resident on your hard drive from an Internet download. System requirements of your Open Labs production station should meet that of your software, or installation will fail. For example, you cannot install Macintosh software in a Open Labs production station, or install Windows 98 compliant software. Your Open Labs production station runs Microsoft Windows XP, and will only accept software that works on this platform.
As a guideline, most current software sold at your music supplier will work on a Open Labs production station. It is only with older software applications that you should practice caution during installation. If you are uncertain whether software applications will work in the Microsoft Windows XP environment, please contact your software manufacturer.
Instructions for installing software are provided in the software package you wish to install. Please read the software's user guide for step-by-step instructions, or visit its website for support.
Be aware that there may be compatibility issues with some third party software. Your Open Labs production station is extremely stable with the software installed as shipped. Open Labs does not recommend installing untested freeware, shareware or firmware to your Open Labs production station. For questions about particular software products, please contact Open Labs support, or the software manufacturer.

New Software Installation Considerations

If you plan to add your own software, be sure you meet all the following criteria:

- The software you wish to install is compatible with Microsoft Windows XP.
- The software does not conflict with software that is already on your system. An example of this is having two brands of anti-virus software running at the same time.
- The software you are installing has support. Open Labs does not support software that is not part of the factory installation.
- Your Open Labs production station meets or exceeds the recommended system requirements of the software you wish to install.
- Also ensure that you have the necessary disk space needed to install the program.
- System Recovery
- Should you install an incompatible program that compromises the stability of your Open Labs production station, a hidden recovery partition has been set up for a complete system recovery. Call or email an Open Labs technician before attempting a system recovery. An Open Labs technician can be reached by calling (512) 444-6222, or by emailing **support@openlabs.com**.

4

C h a p t e r   4   –   Q u i c k s t a r t

Steps to Playing Sounds on an Open Labs Production Station

1. Make sure the power and audio connections are setup.
2. Check to make sure the powersupply power switch is in the on position.
3. Boot up the Open Labs Production station.

Once the system loads up, you will see Riff.
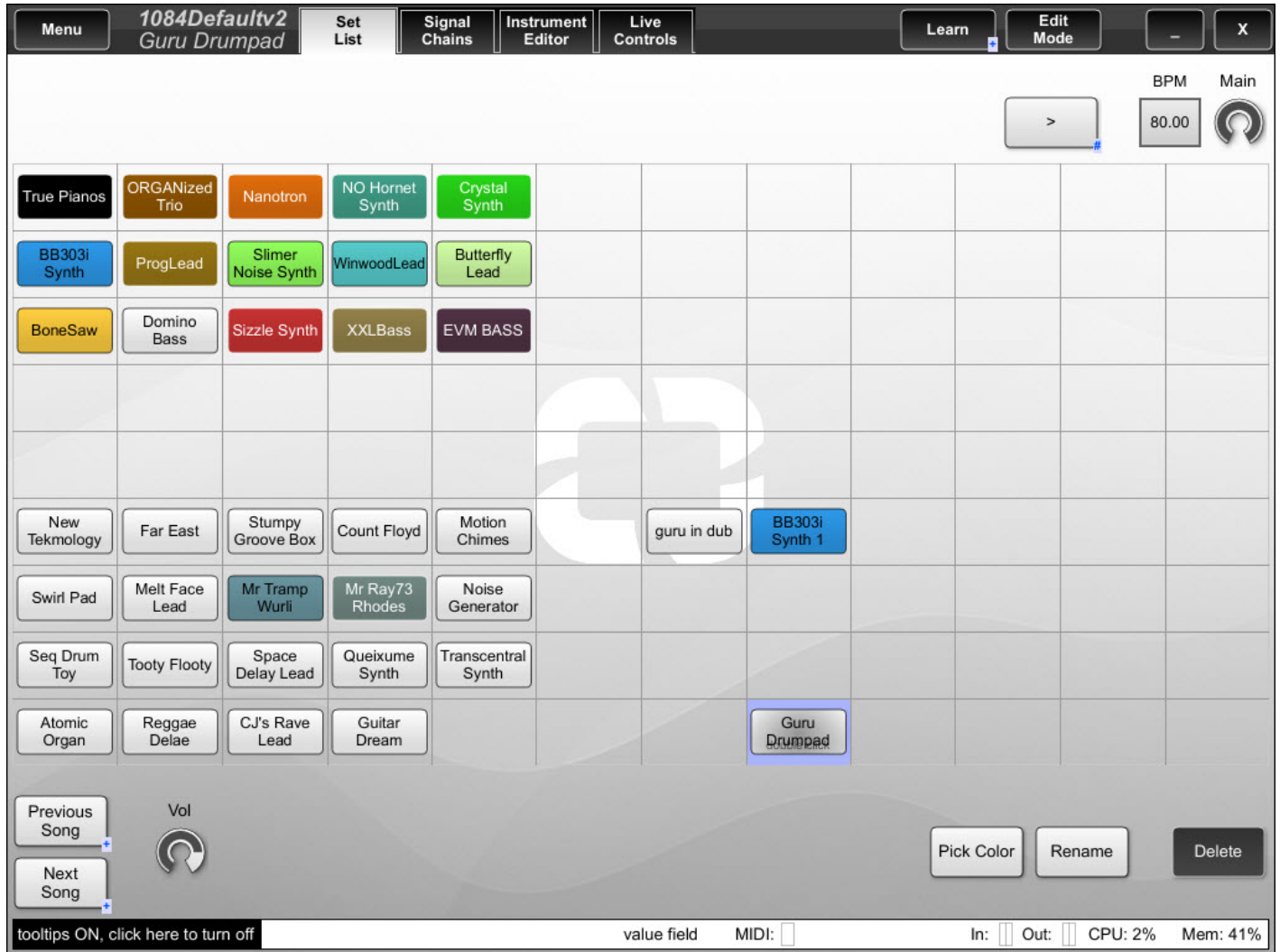
The opening Setlist of Riff has already been preloaded with instruments for you to play. Each "chicklet" is called a Song, select a Song by touching the Song, or use the [Previous/Next] buttons.

Read Chapter 5 for the complete Riff manual.

Here are the Mix Edit Panel control assignments for Riff.
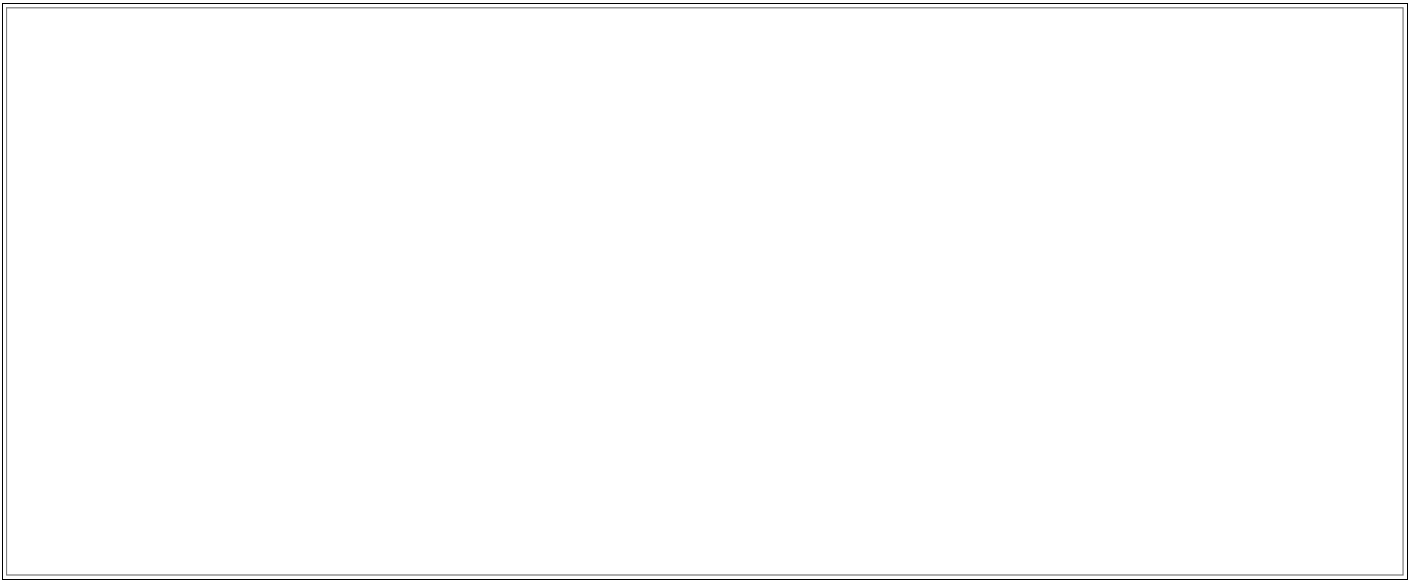
Edit Panel Controls

1. Vol - This controls the selected Signal Chain Volume.
2. Pan - This controls the selected Signal Chain Pan.
3. FX - This controls the selected Signal Chain's selected FX mix knob.
4. SngVol - This controls the overall Song Volume.
5. Low - Controls the lowest value of Live Control Oscillation.
6. High - Contrls the highest value of Live Control Osclillation.
7. Time - Controls the speed of Live Control Oscillation.
8. Offst - Controls the timing of the speed of a Live Controls Oscillation.
9. Press this button to select Bank A. This activates the correct map for the Mix Edit Panel for Riff.

Mixer Panel
The Mixer Panel is not used in this particular setup.

Here are the surface controls of the DJ panel for Riff.
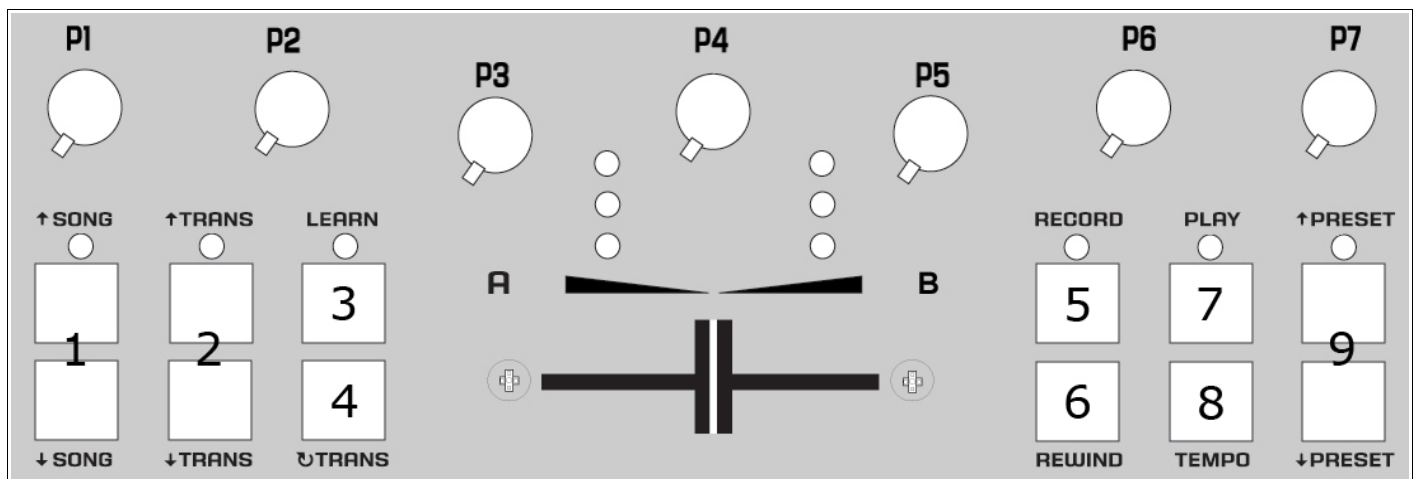
1. Previous and Next song control - If there is more than one Song on the Setlist you can use these buttons to advance or go back one Sone at a time.
2. Tranpose Up/Down - Allows you to transpose the keyboard up or down one octave at a time.
3. Learn - This button allows you to MIDI learn various controls in Riff.
4. Transpose Reset - If you have transposed the keyboard, this button will reset the transpose to zero.
5. Record - Not assigned for Riff.
6. Rewind - Not assigned for Riff.
7. Play - If you have a plugin that has a "tranport for play back" this button will start it, and it will be synched to the tempo of Riff.
8. Tempo - You can use this button to tap the tempo of Riff.
9. Preset Up/Down - If you are using an Instrument that has MIDI program change, these buttons will allow you to scroll through the preset programs.

5

Chapter 5 - Playing Sounds - Riff

Riff is a multi-effect and multi-instrument rack for musicians and sound designers. It is also a VST host that runs as a standalone application.

Riff allows a user to stream the ASIO or VST input signal through chains of individual VST effects so you can use your PC/Open Labs Production Station as a real-time multi-effect processor.

It enables a user to play several VST instruments at the same time. You can layer several instruments to create complex sounds. Or, users may play instruments on different MIDI channels: It turns a computer into a multi-timbral sound generator.

To achieve very low latencies, the standalone version supports ASIO 2.0-compatible sound cards. It will enable users to use VST effects and instruments almost like real hardware devices.

The parameters of Riff and also parameters of the loaded VST plug-ins can be controlled through MIDI control change messages or VST automation.

Before you Begin
You should have a good working knowledge of an Open Labs workstation and a computer's operating system. For example, you will need know how to use the touch screen, touchpad, standard menus and commands. You should also know how to cut, copy, paste, open, save, and close files.

If this is your first time using any type of recording system, you may want to research the basics of Pro Audio, producing music, and MIDI recording. A good place to start is KVR Audio. (http://www.kvraudio.com/wiki/).

Also, be sure to register on the Open Labs user forum. (http://forum.openlabs.com). You can also refer to the Pro Audio Primer located in Appendix A.

This next section will explain to you how to setup Riff after manually installing it. If Riff came stock on your Open Labs production station, you can skip this section as it will already be configured. However, if you have custom plug-in folders, you will want to read the "*Setting up your Plug-ins*" section on this page.

Setting up the Audio

To establish a connection between Riff and your audio output hardware, you will need to select the correct software driver.

1. Select the Audio Options from the Menu>Options>Audio Options tab.
2. In the Audio Device section of this window select your ASIO sound driver (if not already selected). This is the setting that allows Riff to communicate with your audio driver.
3. Hit "Apply", then "OK" to commit the changes and exit.
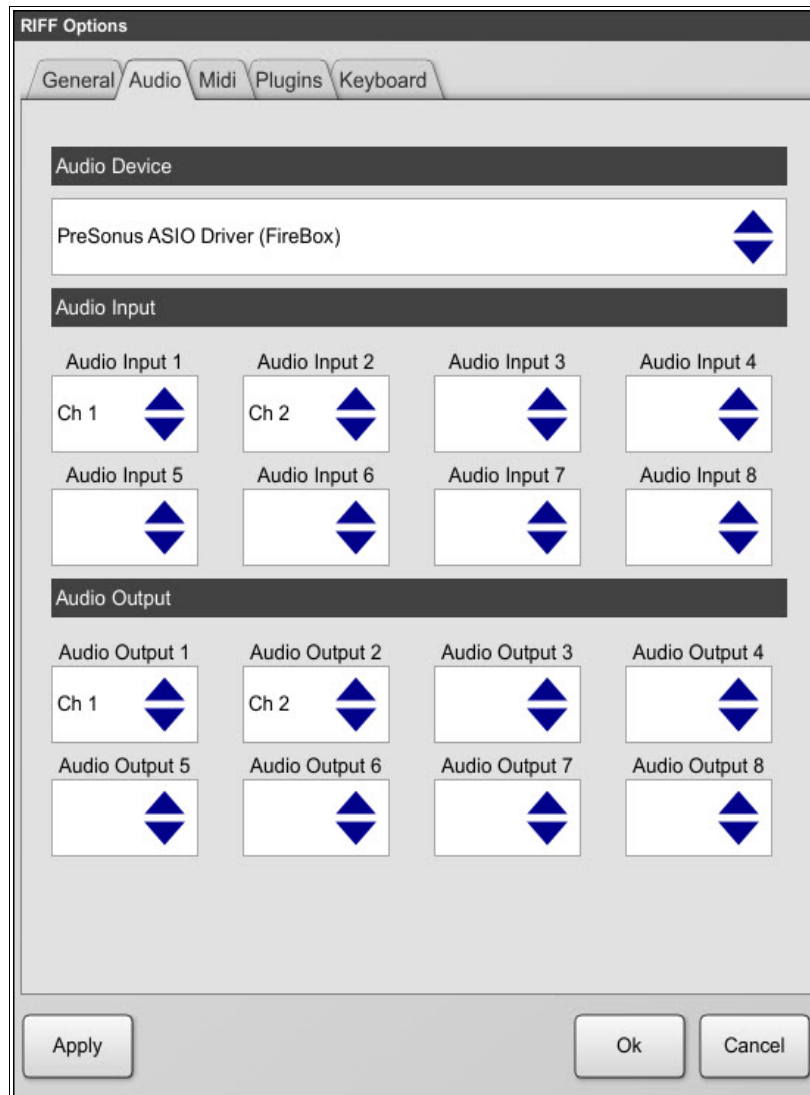
- *Audio Device*: Use this to select the primary ASIO sound driver.
- *Audio Input*: Use this to select your sound card's audio input. This application supports multiple audio input sources.
- *Audio Output*: Use this to select your sound card's audio output. This application supports multiple audio output sources.

Setting up the MIDI

To establish a connection between Riff and your MIDI driver, you will need to select the correct MIDI port. Riff allows you to select multiple MIDI-in and MIDI-out ports.

1. Select the MIDI Options from the Menu>Options>MIDI Options tab.
2. There are four MIDI input boxes. Use the "MIDI Input 1" box to select your MIDI hardware driver.
3. If your system has more MIDI ports available, use MIDI input boxes two, three and four to select those MIDI-in drivers. If you have an 88-key controller for instance, you can select the MIDI driver that device is connected to.
4. If you intend to send MIDI to an external device, use "MIDI output" 1 to select that external MIDI hardware driver.
5. Hit "Apply", then "OK" to commit the changes and exit.
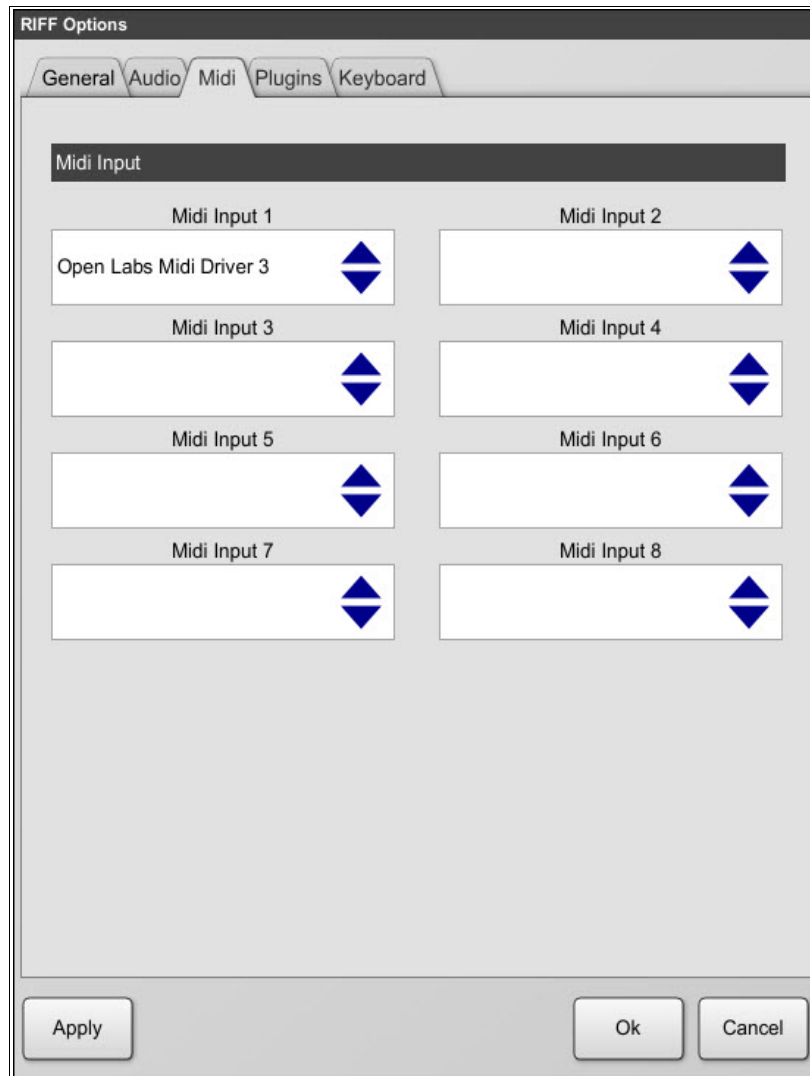
- *MIDI Input*: Use "MIDI input 1" to select your primary MIDI driver. The application also allows you to select three additional MIDI drivers.
- *MIDI Output*: Use this to select an available MIDI driver to send MIDI to an external source.

Setting up Your Plug-ins

By default, all Open Labs production station's plug-ins are located in "*C:\Program Files\Open Labs System (do not delete) Plugins*". With Riff, you can add three more additional locations for plugs. When you install your own plug-ins, please install them to "c:\plugins\". Then tell Riff where this folder is. To add a new plug-in folder:

1. Select the Plug-in options from Menu>Options>Plugins tab.
1. Click on the open space or directory to browse.
2. Browse to the folder where your plug-ins are located, and select it. *The default plug-in folder is "c:\plugins".*
3. Now press the "Rescan All" button. Hit "OK".
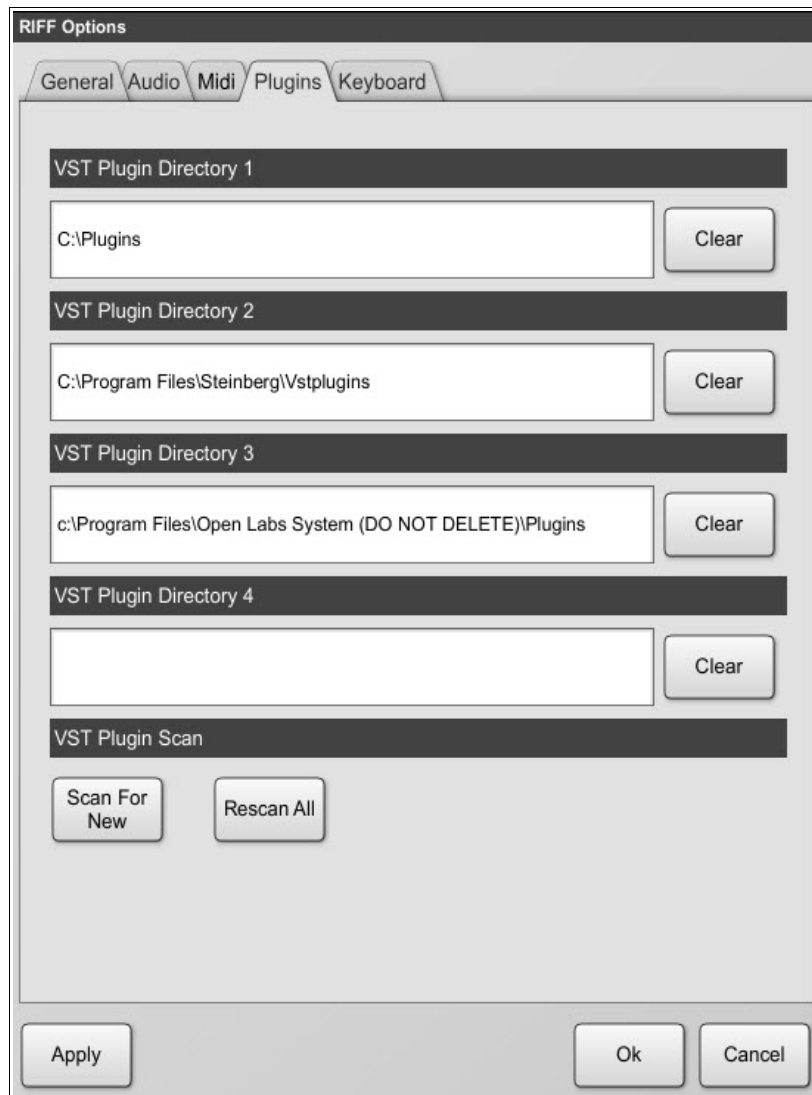
- *VST Plugin directory*: Use this window to select your main VST plug-in directory. Use the "Clear" button to reset this window. Also, we have provided you three more locations to use as VST directories.
- *VST Plugin Scan*: After adding a VST plug-in directory or directories, use either "Scan for New" or "Rescan All" to have Riff scan the folders you have added. All new plug-ins will be available after scanning. There is no need to relaunch the program.

Setting up General and Keyboard Options
The Options window contains a variety of important user-definable preferences used to configure Riff for your audio/MIDI hardware, plug-in locations, and to customize the way you work.

General
Select *Options* from the Menu>Options>General Options>General tab.

- *Library Directory*: Use the "Dir" button to browse over and select a directory to be used as the default save folder for Riff.
- *Start Up Set*: Click in this window to choose a project to be the default project that starts up with Riff.

<u>Keyboard</u>
To configure the Keyboard Range, select Keyboard from the Menu>Options>Keyboard
Options>Keyboard tab.
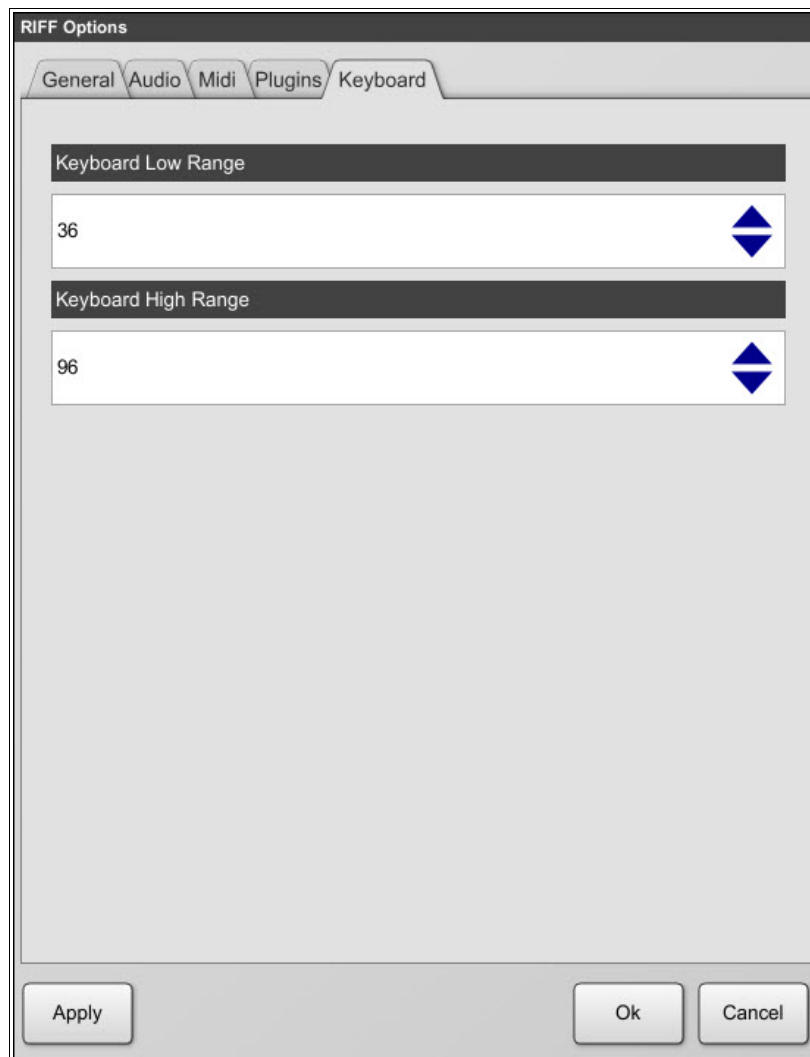
- • *Keyboard Low Range*: Allows you to select the low range of your keyboard. The range is 0-144.
- • *Keyboard High Range*: Allows you to select the high range of your keyboard. The range is 0-144.

5a – Riff Architecture

This section contains important information about the layout and organization of the various elements of Riff. This chapter contains no hands-on tutorials. However, the information here is vital to your understanding of this awesome application. *The tutorials start in Chapter 4.*

A Performance Environment

Riff is an environment to organize collections of VST sound modules, effects, and performance sets. You can think of Riff as a virtual live performance rack that allows you to create songs, set lists, signal chains, effect chains, and virtual live controls. By reading this section, you will gain knowledge of the Riff hierarchy starting with the Set List.

Set List Window

The Set List window is where you start, allowing you to add instruments. Once you right-click and press "Add" you will see the following windows. Each square of a Set List is called a Song.

Sound Browser (Default View)

If you would like to see more details about each instrument, click the [Advanced] button in the upper left corner.

Sound Browser (Advanced View)

The Sound Browser is explained more in *Chapter 5a.*

Before you can play a sound with Riff, you need to add a sound to the Set List. The Set List is grid-based and allows you to switch between Songs. You can easily see the status bar along the bottom.

There are VU meters along that bottom showing the following:

- Audio levels for input and output signal
- Meters that display the overall CPU and Memory usage of the ENTIRE system.
- MIDI activity light.

Since this window is scroll-free, you can literally play an entire show with this screen. Refer to Chapter 4 for more information on using the Set List.

Signal Chain
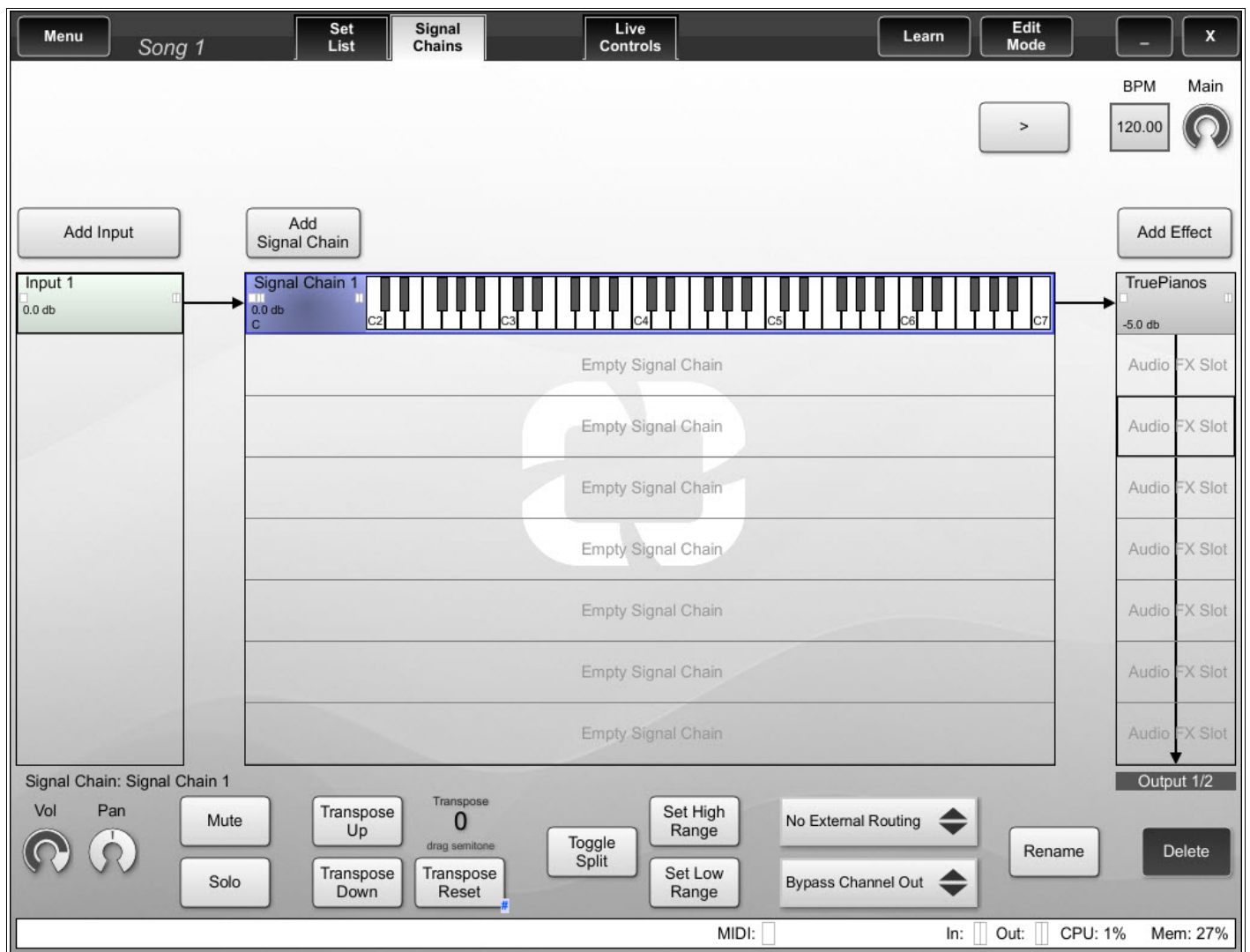
The Signal Chain is a collection of plug-ins that start with an audio input stream and end with an audio output stream. This is explained more in Chapter 5a.

Instrument Editor

The Instrument Editor allows you access to a selected instrument/plug-in's graphical user interface (GUI). You can also reach the Instrument Editor screen by double-clicking the instrument in the Instrument Rack or in the Signal Chain. This is explained more in Chapter 5a.

Live Controls
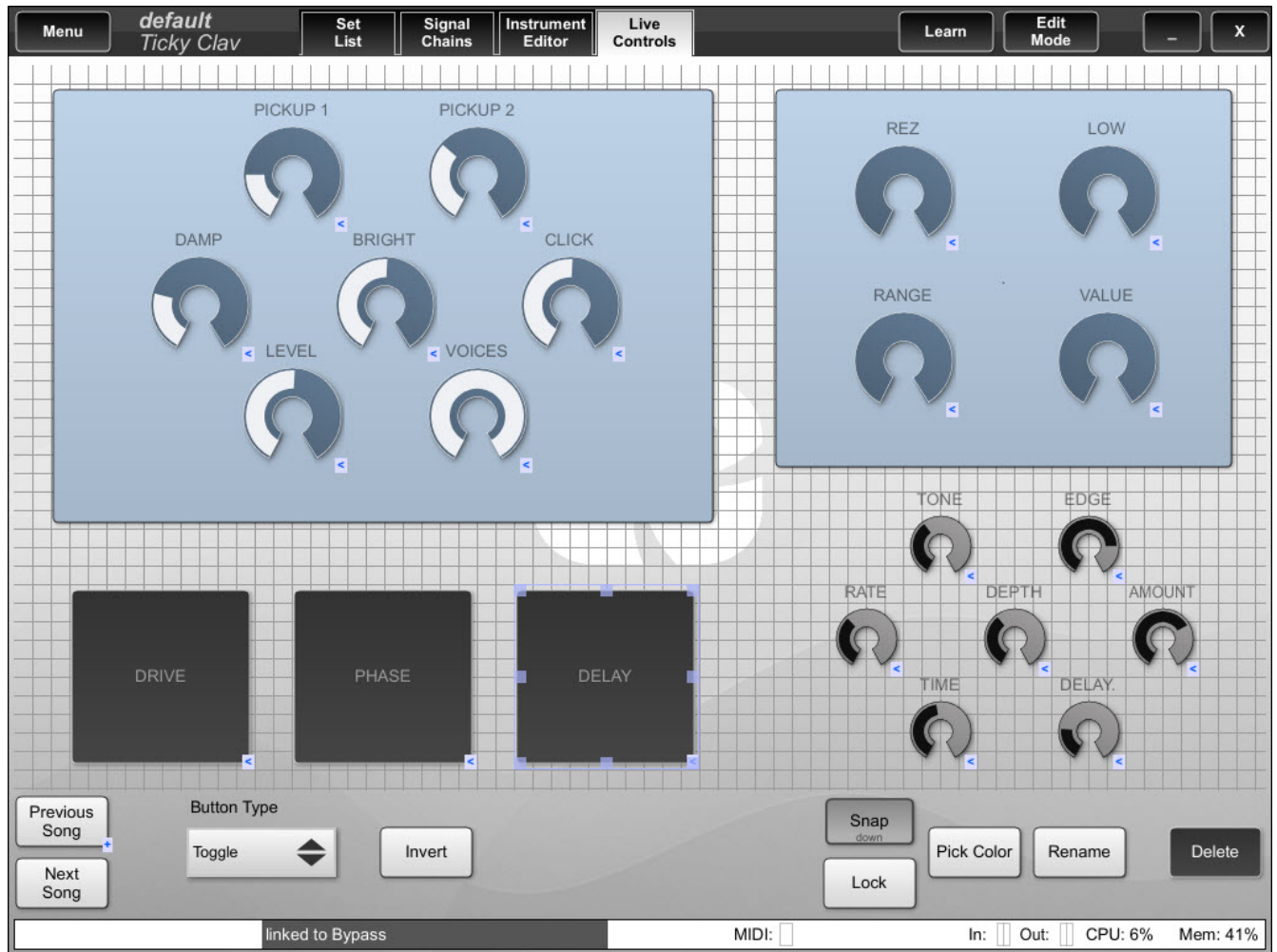
This is one of the most powerful features of Riff. On the Live Controls screen, you can build a custom set of MIDI controllers that can be linked to any instrument, effect, or signal chain control contained within a Song. Live controls for a Song are saved within that Song and can be easily recalled, imported or exported. This is explained more in Chapter 3.

5b – Understanding Riff

This section will begin to familiarize you with navigating around Riff. Initially, don't worry about being unsure with the controls - all will be explained.

Launch Riff
When you first launch Riff, the screen shown below appears. This Setlist is loaded with a default set. Other defaults will have different looks.

Set List
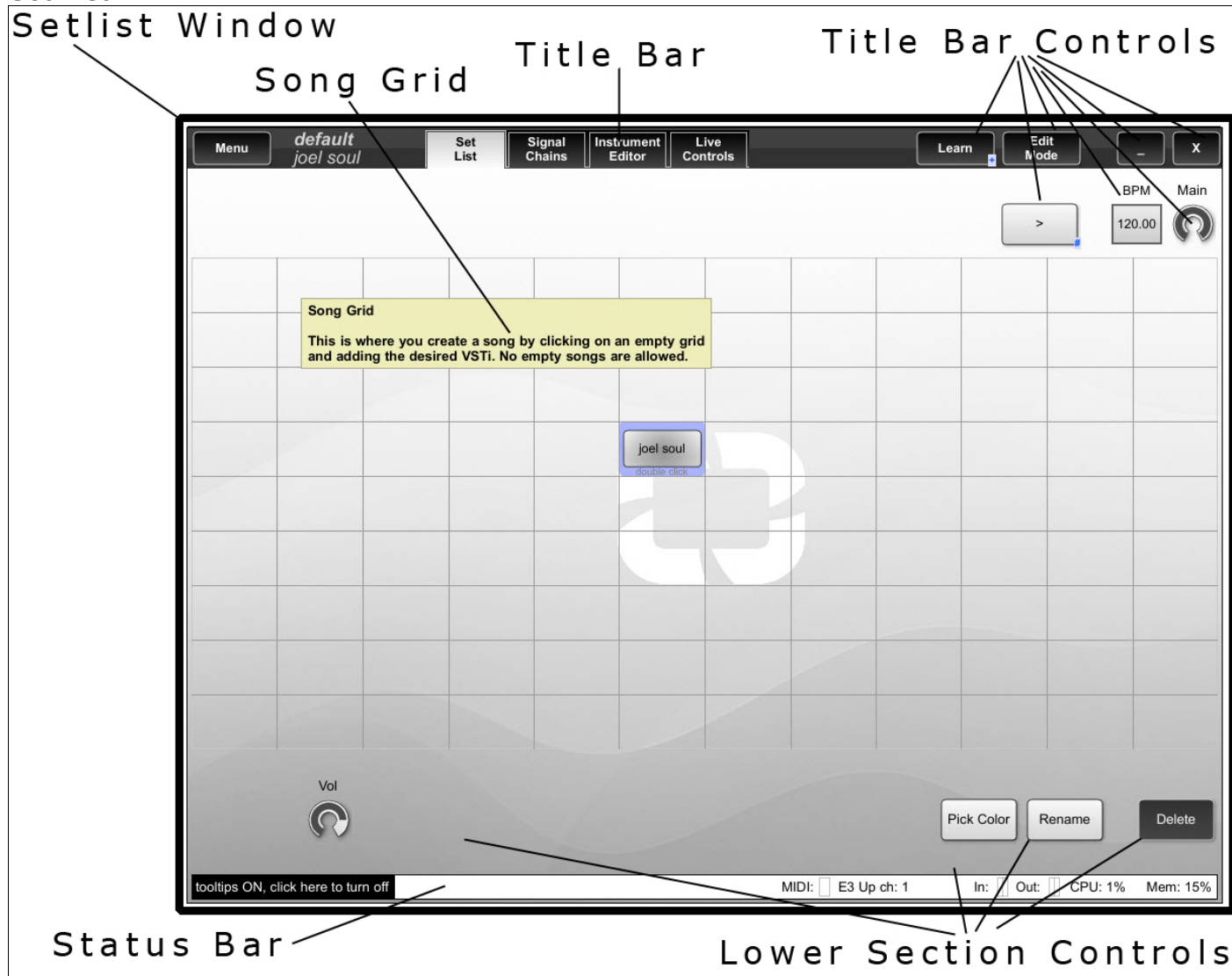
This screen is called the "Set List". **The Song Grid, Title Bar, Title Bar Controls, Status Bar,** and **Lower Section Controls** make up this screen. This window allows you to add and switch between virtual instruments. Each square of the grid is called a "Song".

Song

Use each square of the grid to create a song. A song can either be one square, or it can be a group of squares to create all the parts for the song you are playing. As shown in the example below, using the song grid you can arrange songs into a structure, rename and color code them for easy organization.
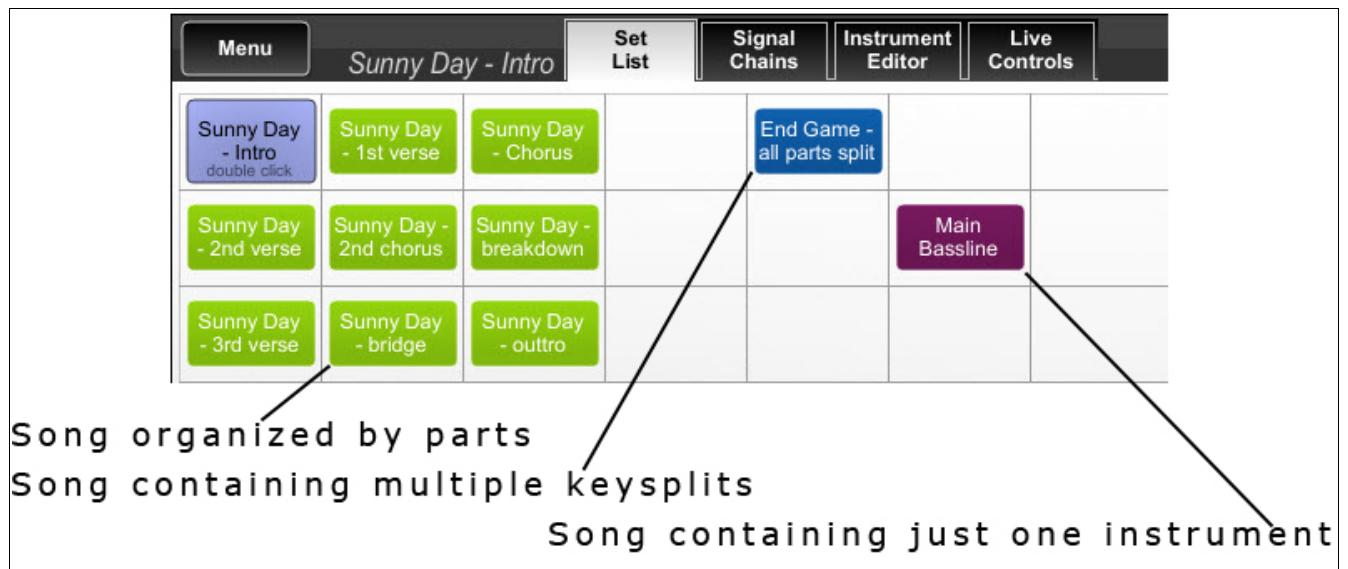
Each song is not just limited to one instrument. Once you go into the signal chain of each song square, you have tons of options, like creating keyboard splits and adding VST effects. *Refer to the section regarding the Signal Chain for more information.*

Title Bar
The Title Bar is the area of Riff that contains the program's control menu items. Items include: Menu, Set List, Signal Chain, Instrument Editor, and Live Controls.

Menu Bar

- File
    - New Set
        - Creates a new Set from scratch.
        - Launches a confirmation dialog, because creating a new Set will eliminate current one.
        - If you want to make a new Set, the current Set will be replaced with the new Set.

    - Open Set
        - Opens the Set List Broswer.

    - Open Recent Set
        - Lists recently accessed Sets. Selecting from here will launch the selected set.

- Open Set in Safemode.....
  - Safemode is a simple way of diagnosing a problematic Set. You can choose whether or not to allow an instrument or effect to load.

  SAFEMODE Plugin Load Confirmation

  Load Classic Flanger ?   48

  Load All   Yes   No

- Save Set
  - If no changes have been made to a Set, this is grayed out.

- Save Set As...
  - Choose this to save your Set with a custom name.

- Import – *Allows the importing of the following items to a currently opened project.*
  - Import Song
  - Import Input
  - Import Rack
  - Import Signal Chain
  - Import Live Controls
  - Import FXP (Program)
  - Import FXB (Bank)

- Export – *Allows the exporting of the following items.*
  - Export Song
  - Export Input
  - Export Rack
  - Export Signal Chain
  - Export Live Controls
  - Export FXP (Program)
  - Export FXB (Bank)

- Exit - *Exits Riff*

- Edit
  - Cut, Copy, & Paste items to and from the clipboard

- Options
  - General, Audio, MIDI, Plugin, and Keyboard options.

- Help
  - Open Help
    - Opens the Riff Help File.

  - About
    - Displays the information regarding the build version of Riff.
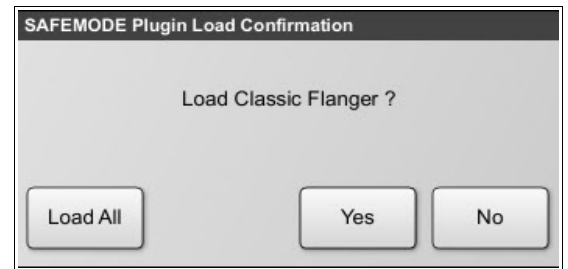
Title Bar Controls

Learn
Switches the host into MIDI Learn Mode. Here, you
can latch live controls to VSTi's. There are two types
of Learn available in the host. See Chapter 4 for more
information.

- Learn – Ties knob to a specific controller.
- Learn Relative – Enables you to map a controller
  to a common parameter, like the volume knob of multiple songs or signal chains.
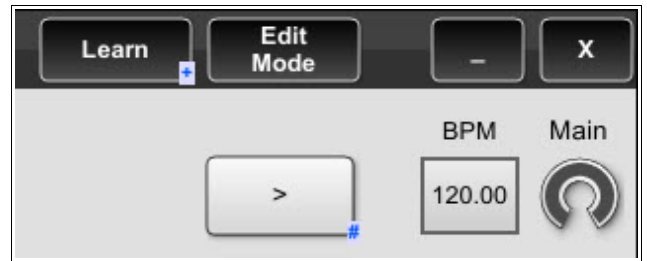
Edit Mode/Live Mode
In Edit Mode a user can move around the Presets, arrange them, set the properties of the Banks
and create tabs. A user can still select Presets in Live Mode. It is just a way for the user to lock
down the interface.

When in Edit Mode here are a few things you can do:

- Create a new Song
- Import/Export sets
- Build a Signal Chain
- Create and Map Live Controls

When in Live Mode the following restrictions apply:

- No editing of live controls parameters except setting low and high
- No right-click menus anywhere
- No adding or removing Banks
- No adding or removing Instruments / Signal Chains

Minimize
Minimizes Riff

Close
Exits Riff

Play Button
This button toggles between play and stop. This is for
instruments that have built in sequencers (Guru, Stylus RMX, or
Reaktor for instance) and effects that are tempo synced.

BPM
This is the control for the global tempo. (*BPM = Beats Per
Minute*) Pressing The box under "BPM" brings up the BPM input
window.

Main - Volume Knob
Overall Master output volume knob of the host

- Can be dragged up or down to change value
- Ctrl + Left-click restores default (This applies to all knobs in Riff)
- Right-clicking here only brings up "Learn" mode
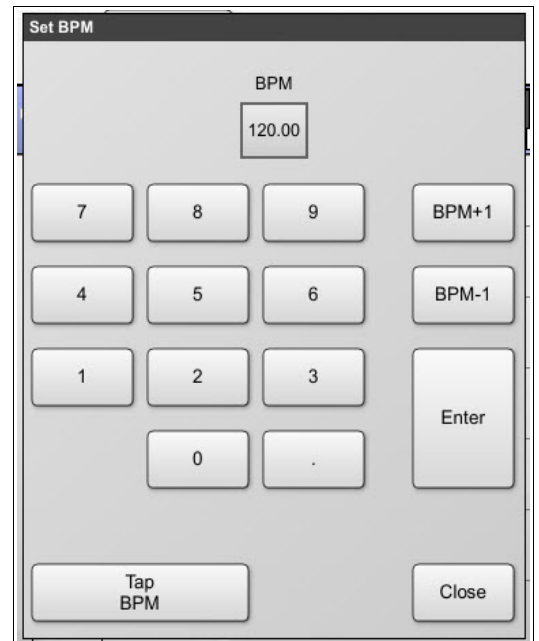
Lower Section Controls

Previous and Next Song
When you have more than one song on your setlist, the Previous and Next song buttons will appear. These allow you to go to the next song of your set. They can be MIDI learned to a surface control.

Vol(Volume)
This volume knob controls the volume for the individually selected song. It is independent from the Main Volume control.
· Right-clicking on the volume knob brings up Learn Mode.
· Learn – Ties the Vol knob to a specific controller
· Learn Relative – Ties the Vol knob to a controller but stays latched to the control volume on the selected preset. *Whatever preset is in focus will have its volume controlled.*

Pick Color
Brings up the Color Picker dialog box. Here, the user can select the color choice for the preset.

Rename
This button allows you to rename the preset.

Status Bar

Tooltips
Tooltips will display info on what is being selected. Also, tooltips will show the numerical value of a changed parameter, as well as the name and brief description of the controls as they are moused-over.

Audio VU Meter
The Audio VU meter shows the signal for the master output bus. By default, this will show outputs one and two. This can be changed to show whatever outputs you are using.

MIDI Indicator
The MIDI Indicator shows whether Riff is receiving MIDI from any MIDI controllers. It also displays the note/MIDI value.

CPU
CPU monitors the current processor usage of the entire system. Not just the program.
· Displays the usage in percentages.

MEM
MEM displays the physical memory usage of the entire computer system.

Signal Chain

This is the main window where instrument racks and effect chains are created and managed. These are the components that comprise the Presets from the Song/Set grid pages. Each of the Song buttons on the Song/Set Grid page has a Signal Chain. Moving from left to right, each Track is composed of up to 8 instruments. Each Instrument can have up to seven effects added to it.

Preset > Inputs > 8 Instruments > 1 Signal Chain > 1 Plug-in + 7 Effects
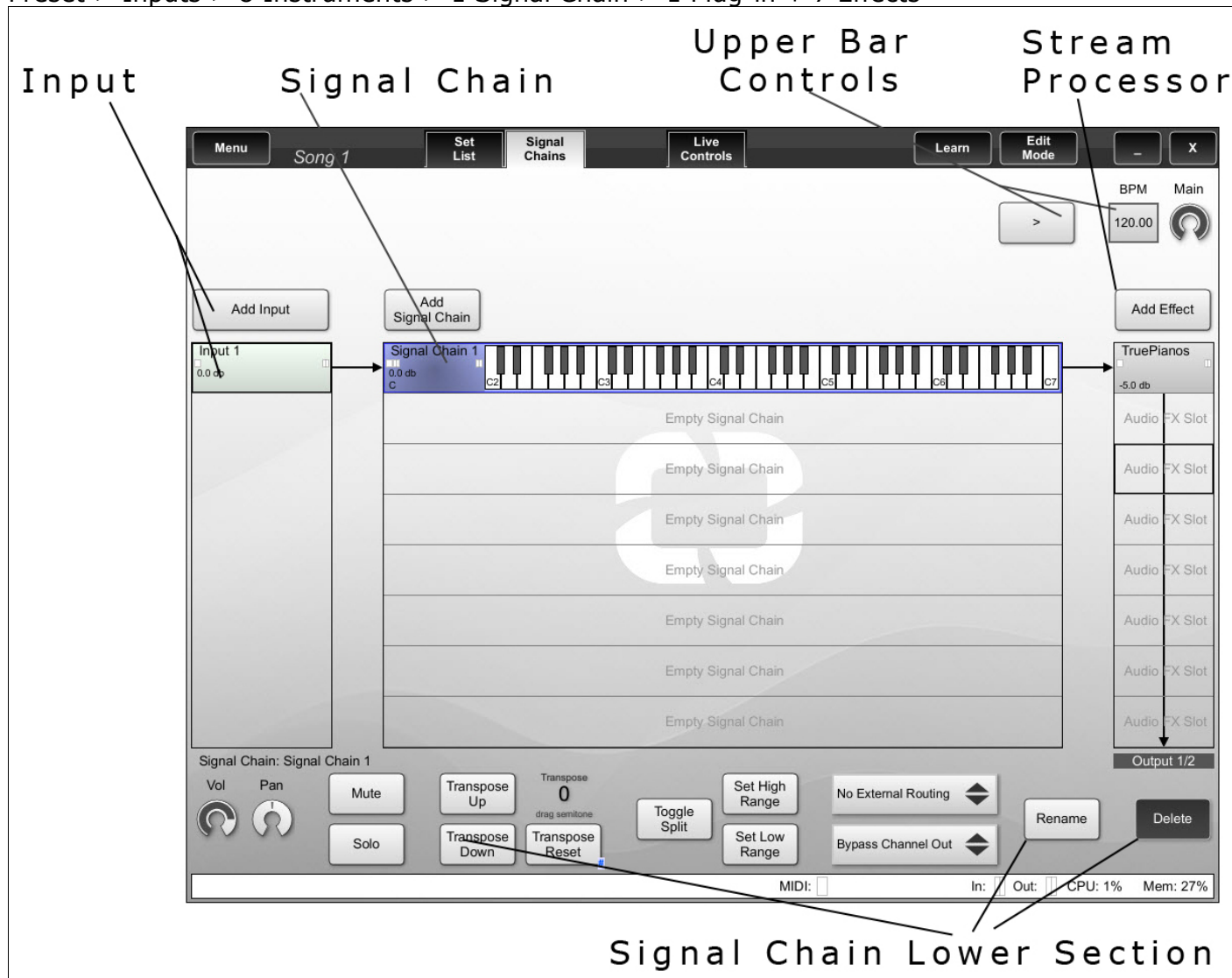
<u>Upper Bar Controls</u>

The Upper Controls are located above the Stream Processor and below the Title Bar.

- • *Play Button* – This button toggles between play and stop. This is for instruments that have built in sequencers (Stylus RMX, or Reaktor for instance) and effects that are tempo synced.
- • *BPM* – This is the control for the global tempo. (*BPM = Beats Per* Minute) Pressing The box under "BPM" brings up the BPM input window. As shown in the window on page 21.
- • *Main* – Master output volume knob of Riff.

<u>Input</u>

- • *Add Input* – This allows for an Input to be created with a signal chain containing a VSTi, or an empty signal chain with no VST. In order to use the VSTi's and play them, an Input must be selected with the desired plug-in.

Input Column Controls

The lower section of the screen shows the controls for the Input Column. Those controls are:

- ▪ *Vol* – Volume control for the Input. All instruments and their signal will be affected.
- ▪ *Monitor* – Allows you to monitor the Open Labs Keyboard, pad module, or external MIDI device.
- ▪ *Input / Output* - Brings up the MIDI I/O window.
- ▪ *Rename* – Renames the currently selected Input
- ▪ *Delete* - Deletes the currently selected Input

The lower section of the screen shows the controls for the Rack Column. Those controls are:
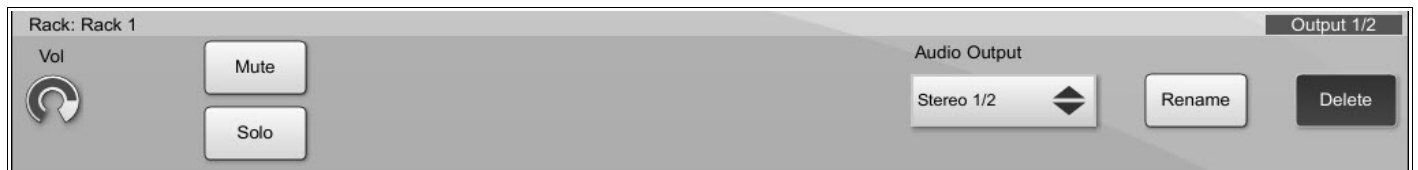
- *Vol* – Volume control for the Rack. All instruments and their signal will be affected.
- *Mute* – Mutes the Rack. All instruments and their signal chains will be affected.
- *Solo* - Solos the Rack and mutes all other Racks.
- *Audio Output* - Allows you to route a rack to a particular separate output.
- *Rename* – Renames the currently selected Rack.
- *Delete* - Deletes the currently selected Rack.

Signal Chain

- *Add Signal Chain* – Accesses the Sound Browser, where you can select a plug-in and add it to the Instrument rack. Up to eight instruments can be added per Track.

Signal Chain Column Controls
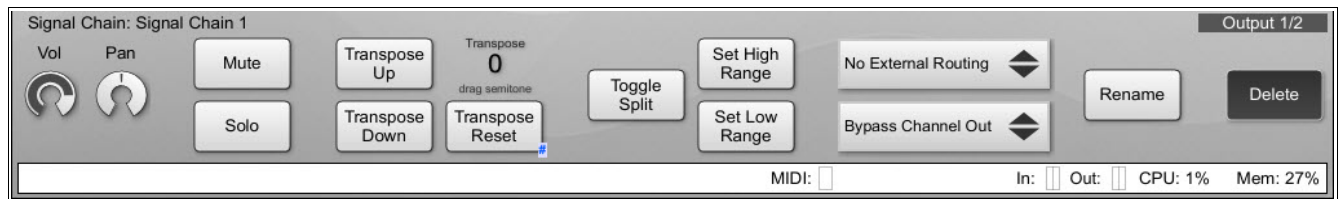
The lower section of the screen shows the controls for the Signal Chain Column. Those controls are:

- *Vol* – Volume control for the Signal Chain. All instruments and their signal will be affected.
- *Pan* – Pan control for the Signal Chain. All instruments and their signal chains will be affected.
- *Mute* – Mutes the selected Signal Chain. All instruments and their signal chains will be affected.
- *Solo* - Solos the Signal Chains and mutes all other Signal Chains
- *Transpose Up* - Transposes notes sent by one octave up.
- *Transpose Down* - Transposes notes sent by one octave down.
- *Transpose Reset* - Resets any transposed notes back to zero.
- *Toggle Split* – Allows you to open or close any keyboard splits you have created.
- *Set High Range* - Selecting this button brings up the Learn High Range dialog box prompting the user to select the MIDI note that will be the highest note sent to the instrument. The user hits the key on the Ivory keyboard and the high ceiling is set. The change will immediately be seen on the keyboard layout on the Instrument rack.
- *Set Low Range* - Selecting this button brings up the Learn Low Range dialog box prompting the user to select the MIDI note that will be the lowest note sent to the instrument. The user hits the key on the Ivory keyboard and the low is set. The change will immediately be seen on the keyboard layout on the Instrument rack.
- *Signal Chain Router (External Routing)* – Quickly allows you to change MIDI channels and to inter-route between other Signal Chains. It also creates multiple key splits from one multi-timbral instrument.
- *MIDI channel selector (Channel Out)* – Use this to create a MIDI channel output for the selected signal chain. This is used when working with multi-timbral synths and external MIDI devices.
- *Rename* – Renames the currently selected Signal Chain.
- *Delete* – Deletes the currently selected Signal Chain.

Stream Processor

- Add Effect – Brings up the plug-in browser, where you can select an effect to add to the signal chain. Audio is processed from top to bottom, and effects can be switched around in order to change their routing. Typically, the first slot is used for an instrument, while the plug-ins that are below it affect its sound. The user can also load MIDI effect. These are plug-ins that output MIDI rather than audio. These are placed above the sound generating plug-in so that it can pass MIDI. Riff will not allow illogical configurations, (e.g. Sound generating plug-in, followed by a MIDI VST, followed by an effect followed by another sound generator).

Once you add an effect, you will get a new tab on the Title Bar called "*Effect Editor*".

Selecting the "Effect Editor" will bring up the GUI of that effect:

If an instrument or plug-in is selected, you can access the list of the parameters for the plug-in by clicking the "Show Params" tab on the Instrument Editor lower control screen. The last touched control on the plug-in will be highlighted on the Params page. This is helpful for locating hard-to-distinguish parameters.
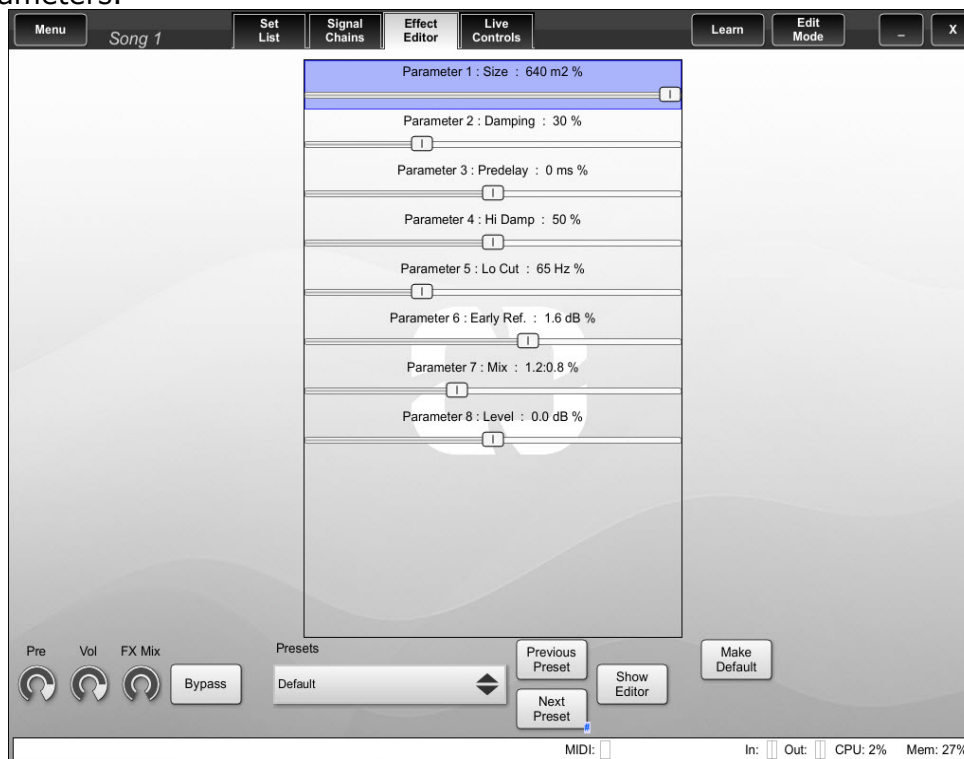
This is a list of the raw parameters of an effect. This will also display parameters that might not be accessible from the plug-in GUI.

Effect Column Controls
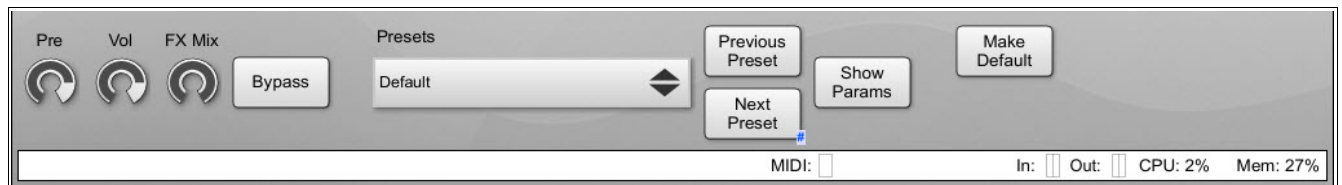
The lower section of the screen shows the controls for the Effect Column. Those controls are:

- *Pre – Pre control: Controls the input into the selected Audio FX.*
- *Vol –* Controls the output of the selected Audio FX.
- *FX Mix –* Controls the wet/dry mix.
- *Bypass* - Bypasses the output of the effect.
- *Presets* - A drop-down box that allows you to quickly browse through preset sounds. Displays the list of the Presets contained within the synth. Touching the Preset name will expand the list into a scrollable list where a new preset can be selected
- *Previous Preset –* Selects the previous preset in the list.
- *Next Preset –* Selects the next preset in the list.
- *Show Params –* Shows all the VST parameters without the GUI making it easier to find and change certain parameters. You can switch between a GUI and non-GUI.
- *Make Default –* Locks user created parameters as the default setting. This only applies to the selected Song. Loading another instance of the VSTi will not load with this as the default setting. The only exception to this of course is "Shared Instruments".

Instrument Editor

If an instrument or plug-in is selected, you can access the GUI by clicking the Instrument Editor tab on the Title Bar. Also, you can reach the Instrument Editor screen by double-clicking the instrument in the Instrument Rack or in the Signal Chain.

Instrument GUIs larger than 1021x727 will display horizontal and vertical scroll bars. The controls along the bottom are very similar to the controls seen on the Signal Chain tab. Any MIDI settings learned here will be the same as the ones set on the Signal Chain tab.

- *Vol* – The volume here basically controls the amount of output that is sent to the next effect in the Signal Chain. It is independent of the Vol control for the Instrument in the Instrument Rack
- *Transpose Up/Transpose Down* – Transposes notes sent by one octave up or one octave down.
- *Presets* – Displays the list of the Presets contained within the synth. Touching the Preset name will expand the list into a scrollable list where a new preset can be selected.
- *Prev Preset/Next Preset* – Navigates through the Preset list. Can be Learned or Relative Learned.
- *Show Params* – This button brings up the parameters view of the current plug-in. Clicking it again switches back to the plug-in's GUI. *Refer to the next page for an example.*
- Make Default - Locks user created parameters as the default setting for the selected song.

Instrument Parameters

If an instrument or plug-in is selected, you can access the list of the parameters for the plug-in by clicking the Show Params tab on the Instrument Editor lower control screen. The last touched control on the plug-in will be highlighted on the Params page. This is helpful for locating hard-to-distinguish parameters.

This is a list of the raw parameters of an Instrument. This will also display parameters that might not be accessible from the plug-in GUI. The Lower control section is the same as the Instrument Editor tab.

- *Show Editor* – Pressing this button will take you back to the Instrument Editor screen.

Exporting and Importing User Patches

If you tweak out a patch in an instrument, you can export that setting by going to *Menu>File>Export>Export FXP (Program)*. This also applies to Banks. Except you would pick *Export FXP(Bank)* instead.

Live Controls

This is one of the most powerful features of Riff. On this screen you can build a custom set of MIDI controllers that can be linked to any Instrument, Effect, or Signal Chain Control contained within a Preset from the Song Grid. Live controls for a preset are saved within that preset and can be easily recalled.

The Edit Mode toggle button toggles the Live Control screen between Edit mode and Live mode. In Edit mode a user can add, remove, resize and edit the properties of the Live Control. Each Live Control can be mapped to a plug-in parameter, just like a real hardware control. In Live Mode a user cannot add, remove, resize and edit the properties of the Live Control.
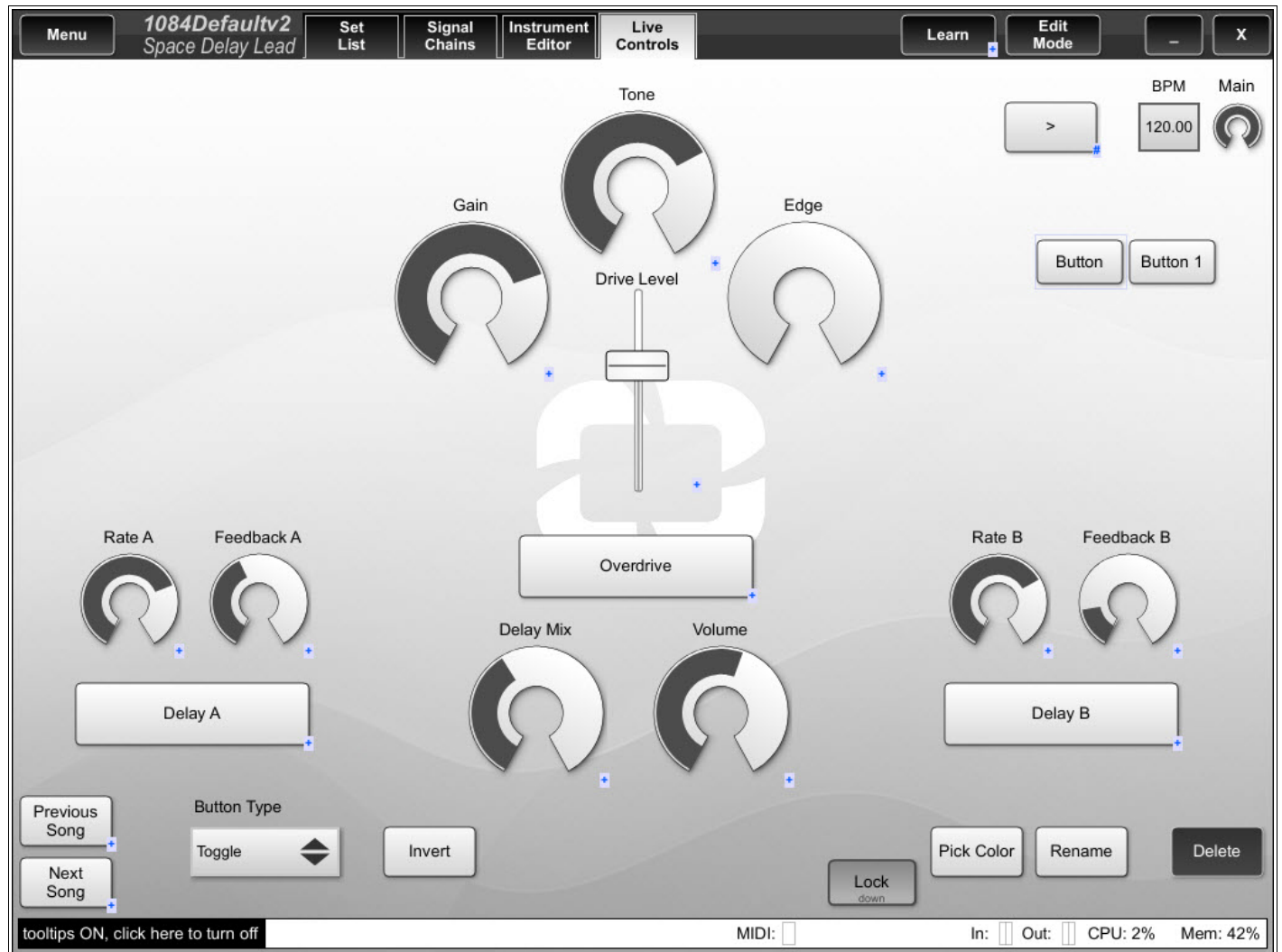
A left-click, right-click or a touch via the touchscreen on an empty space will bring up the "Add" menu. You can add a **Knob**, **Button**, **Horizontal Slider**, **Vertical Slider**, **XY Pad,** and a **Text Editor**.

Knob Properties/ Horizontal Slider Properties/ Vertical Slider Properties

- • *Invert* – This option allows you to invert the Virtual Live Control function. This comes in handy when working with VST's that have reversed buttons to bypass.
- • *Low* – Sets the low boundary of a knob or slider.
- • *High* – Sets the high boundary of a knob or slider.
- • *Oscillator Type* - The knob can be made to self oscillate. Below is a listing of the Oscillator types.

  - ▪ *Sine - A sine wave is often thought of as the most simple or pure wave because it possess only one harmonic and is a smooth wave.*
  - ▪ *Triangle – A triangle waveform that rises quickly to a particular amplitude, then quickly drops.*
  - ▪ *Saw - The sawtooth wave (or saw wave) is named a sawtooth based on its resemblance to the teeth on the blade of a saw. Sawtooth waves ramps upward as time goes by and then sharply drops. However, there are also sawtooth waves in which the wave ramps downward and then sharply rises.*
  - ▪ *Inverted Saw – Inverts the Sawtooth wave type. Inverted Saw waves ramps downward and then sharply rises.*
  - ▪ *Square - The square wave alternates quickly between two levels.*
  - ▪ *Random - This randomly selects oscillator parameter values.*
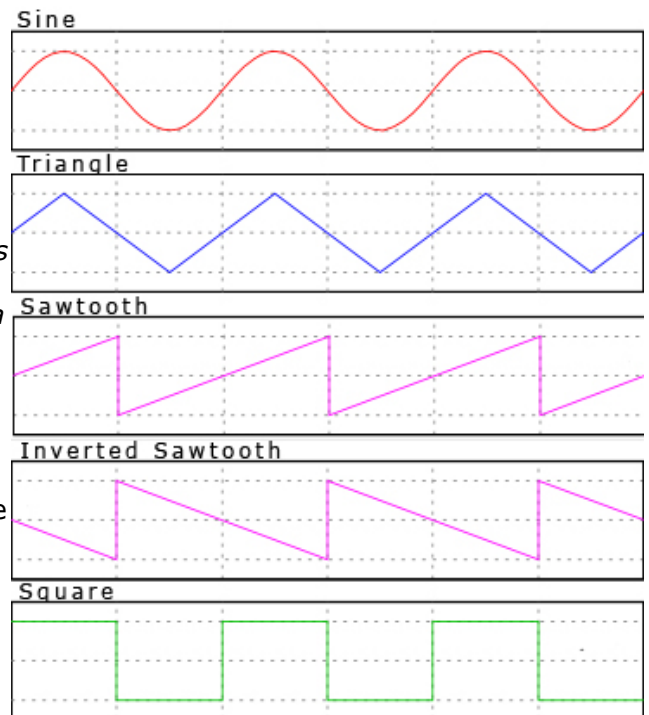
- • *Time* – Choose the rate of oscillation by adjusting this knob.
- • *Offset* - Offsets the starting point of the oscillation dependent on the clock of the host. This is used to make knobs/sliders hit their high/low ranges on different beats. Like on a 16th or 8th or any desired beat.
- • *Use BPM* - This button allows you to sync the knob/slider with Riff's BPM.
- • *Use Sequence* - You can latch the oscillators to start with the play button of the host and any other sequencer that has been synced to the host. When you hit play the oscillators start oscillating along with a sequencer (if you have put it to sync with the host). *This only applies to the selected live control.*
- • *Snap* – Snap live controls to a grid.
- • *Lock* – This will lock down all the live controls making them operable. This is similar to live-mode but still allows you to edit the live controls, with the exception of resizing them.

Button Properties
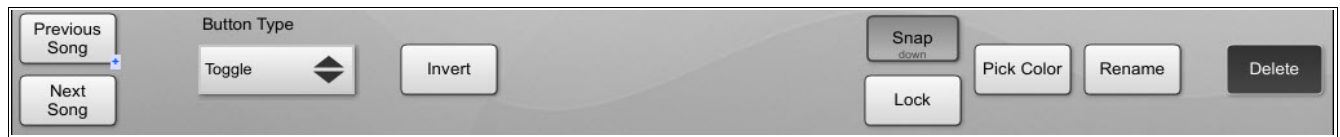
- *Button Type* - The options are Toggle (On/Off) and Momentary(Trigger)

  - *Toggle* – When set to toggle, a button remains on until you press it again. Hence On/Off.
  - *Momentary* – When set to Momentary, a button triggers when pushed and releases the trigger when released.

- *Invert* – This option allows you to invert the button function. This comes in handy when working with VST's that have reversed buttons to bypass.
- *Snap* – Snap live controls to a grid.
- *Lock* – This will lock down all the live controls making them operable. This is similar to live-mode but still allows you to edit the live controls, with the exception of resizing them.

XY Pad Properties

- *Low X/ High X* – Sets the low and high ranges for the X axis on the XY pad.
- *High Y/ High Y* – Sets the low and high ranges for the Y axis on the XY pad.

Text Properties

Creates a box the user can use for typing notes, text or labeling in. For instance, the name of the song or special tricks for that individual song.

- *Edit Text* – This allows you to input the actual text to be displayed when in live mode.
- Lock – This will lock down all the live controls making them operable. This is similar to the live-mode but still allows you to edit the live controls, with exception of resizing them.
- *Pick Color* – Brings up the Color Picker dialog box. Here, the user can select the color choice for the text.
- Delete – Deletes the currently.

5c – Using Riff: Tutorials

Using the Song Grid

Creating a New Set and Adding an Instrument

To create a new Song; First, right-click in a grid square and select "Add".
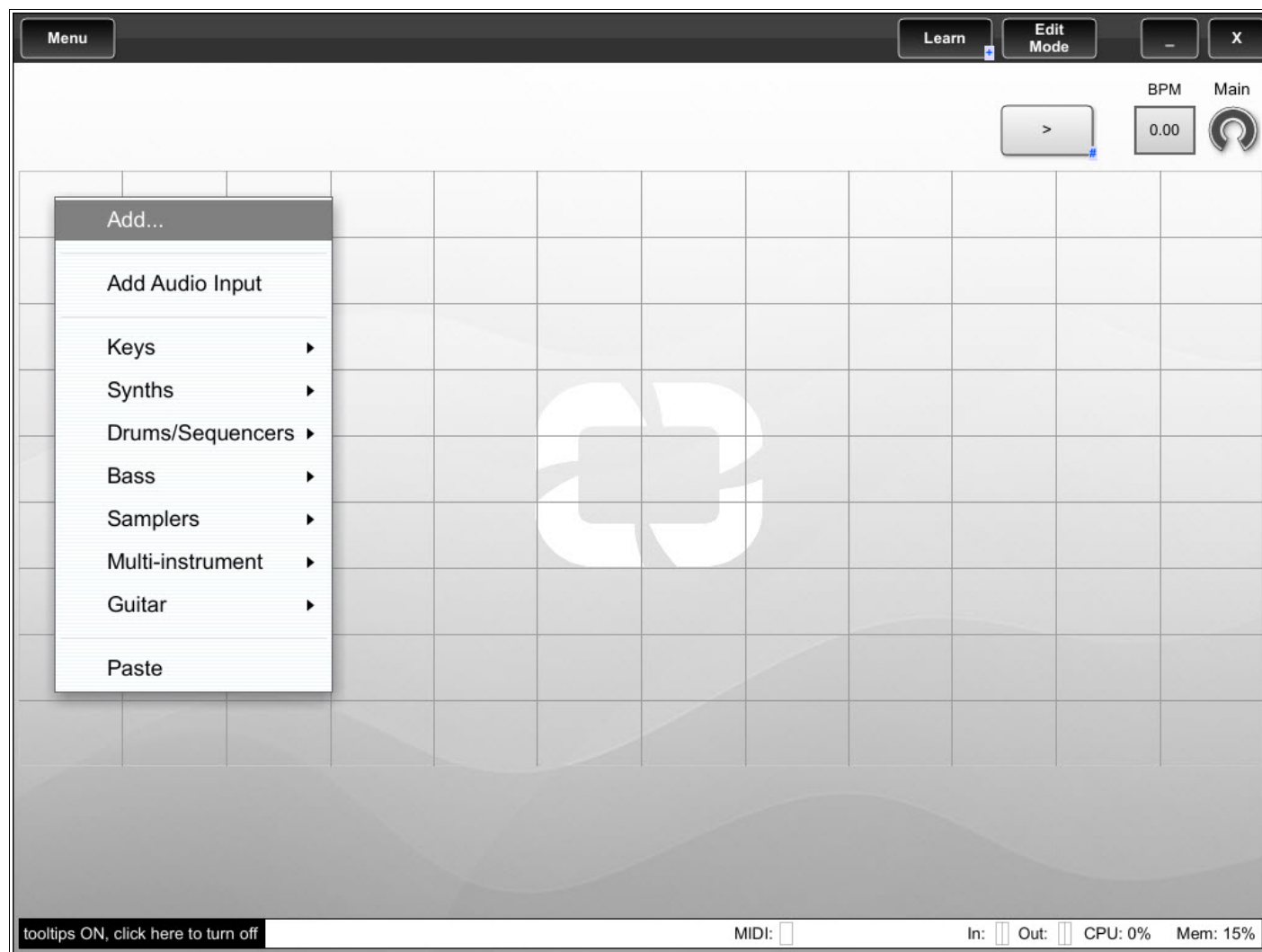
After right-clicking, you can choose from "Add...", or you can choose from an instrument category. The instrument categories are: KEYS, SYNTHS, DRUMS&SEQUENCERS, BASS, SAMPLERS, MULTI-INSTRUMENT, and GUITAR. *Refer to Appendix B for a list of instruments.*

If you click "Add" you will see the Sound Browser. Pick an instrument from the list and press the [Add] button. This will insert this instrument into the Song grid for you to play.

About the Sound Browser

The following will give you a run down of the Sound Browser.

1. *Add Category* – Adds a new custom category to the category column. Instruments can be drag -n-dropped into a category. A Category can also be renamed to describe the type of instruments it contains.
2. *All* – This list contains all the instruments profiled by your assigned plug-ins folder.
3. *Categories* – Instruments are arranged by their category. You can also create categories. Right-click and select "Add". Then drag a plug-in to this new category.
4. *Shared Instruments* – Lists all the instruments you have enabled for sharing.
5. *Quarantined* – If an instrument does not work properly with Riff, you can right-click it and have it sent to the quarantine list.
6. *Advanced* – Switches the sound browser over to the advanced view. Selecting the advanced view will become the default Sound Browser view until you press it again. *Refer to the image on the next page.*
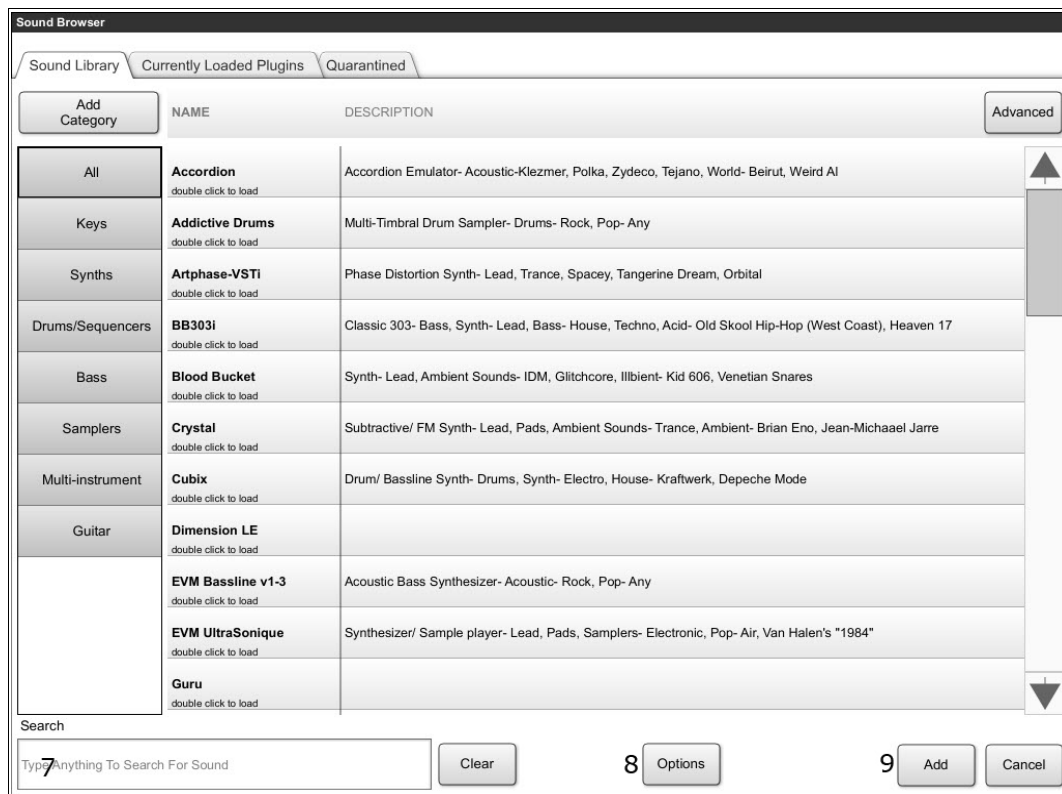
The advanced window shows you the type of instrument, manufacturer, format (VST/dx), in/out, and file path.

7. *Search* – Type in the name of an instrument then hit "Enter" on the keyboard to locate it. Use the [Clear] button
8. *Options* – This launches Riff's options page as detailed in Chapter 2 "Plug-in Options".
9. *Add/Cancel* – When you select an instrument in the list, press the [Add] button to add it to the song.

Once an instrument is added to the Setlist, this is what you will see.
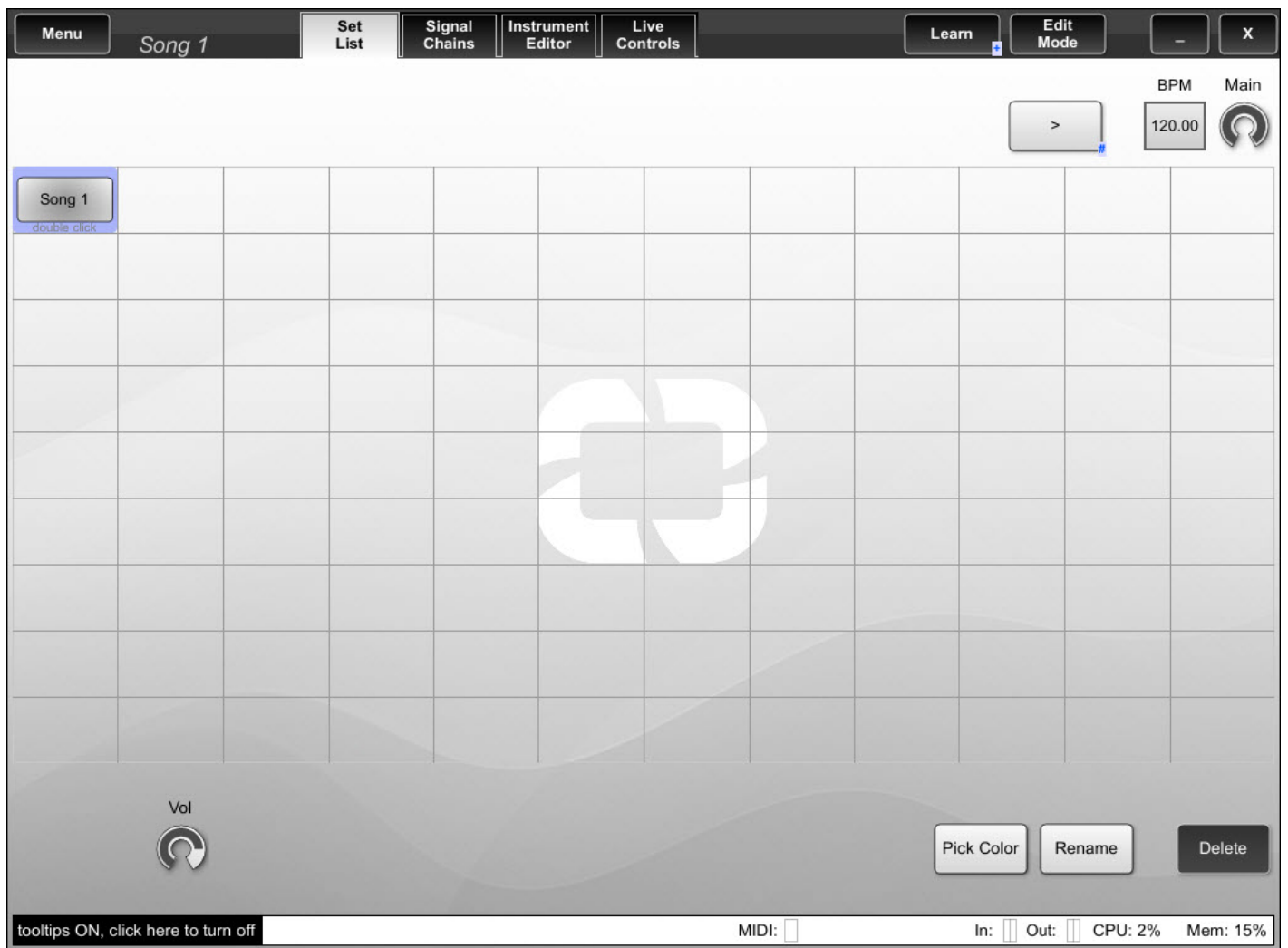
You can now play this sound with the ivory keys.

If you want to adjust the settings of the instrument in the first song, click the [Instrument Editor] tab, which is located on the Title Bar.

If you add another Song to the Set List, the [Previous Song] and [Next Song] buttons appear. These two buttons will be in the lower left corner of the screen. And, will allow you to move to the next song in the Set List.
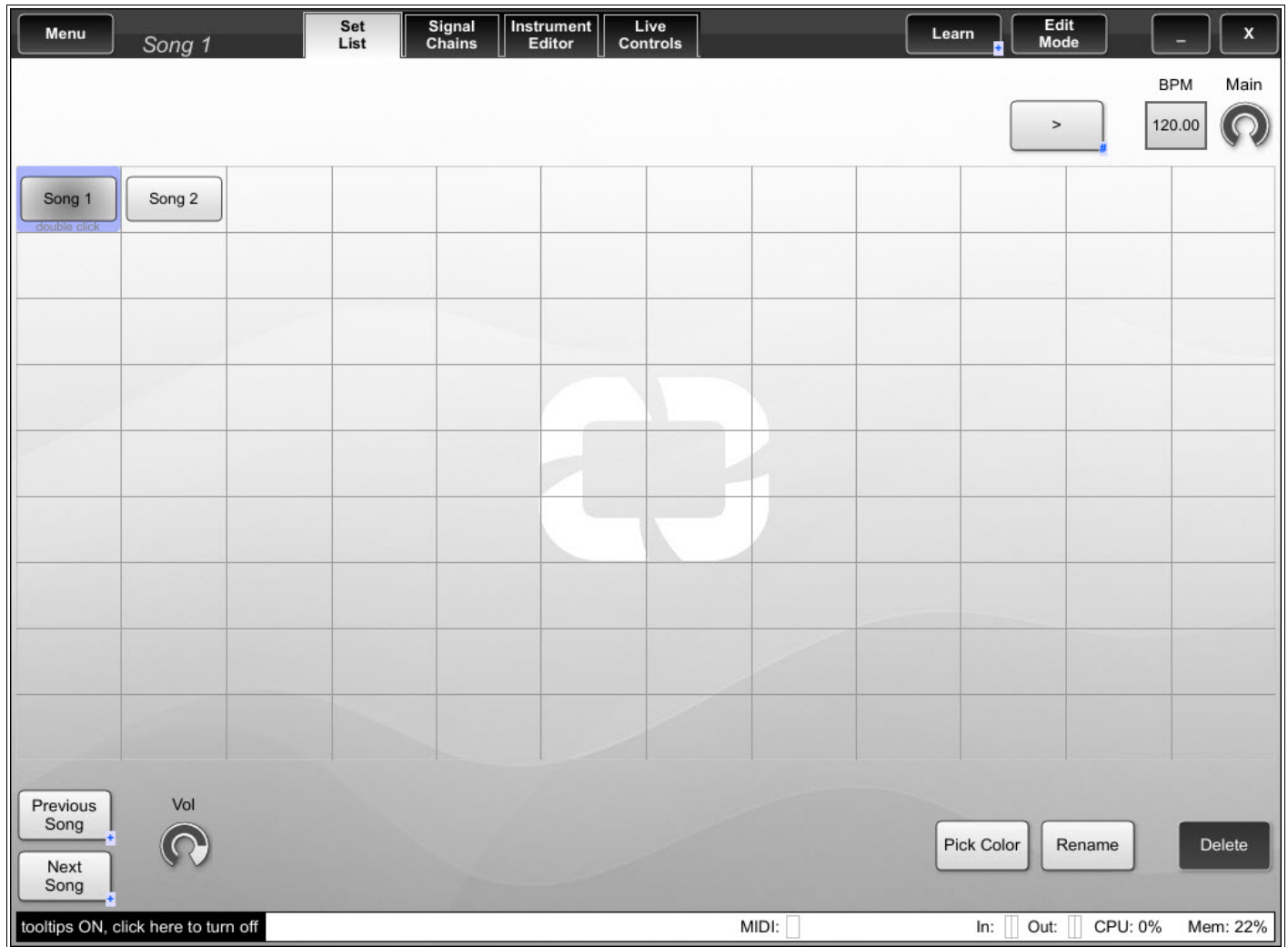
Saving a Set

To save the current Set List, go to Menu>File>Save Set As....
When the window pops up, type in a name and hit [OK].

Rename a Song
Right-click a Song, then choose "Rename" and finally type in a name.

Importing Racks, Signal Chains, Songs, Inputs
Go to Menu>Import> here you will see the various import options.

Exporting Racks, Signal Chains, Songs, Inputs
Go to Menu>Export> here you will see the various export options. Make sure to have the item you want to export selected.

Using the Signal Chain

Adding an Additional Instrument to a Song

As stated in Chapter 3, a Song can contain multiple instruments in one song square. To add multiple instruments to one Song, select the Signal Chain Tab at the top of the screen.
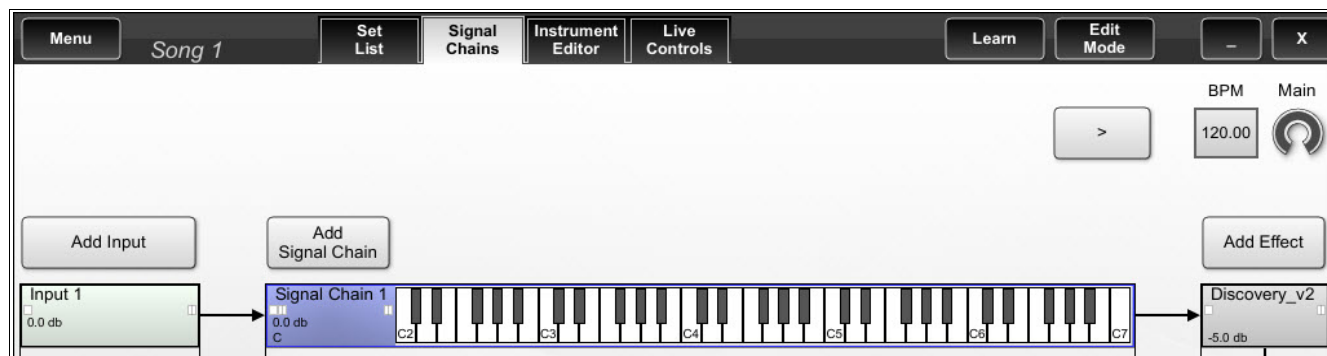
[Add Input] - This allows for an Input to be created with a signal chain containing a VSTi, or an empty signal chain with no VST. In order to use the VSTi's and play them, an Input must be selected with the desired plug-in.

[Add Signal Chain] – Use this button to create a new signal chain with a VSTi, or create an empty signal chain for unique key splits. Touching the screen on a blank signal chain will give you the same add option.

To add that additional sound to this song go ahead and press the [Add Input] button. Again, you can decide to pick a sound by the category, or by using the Sound Browser.
The next image shows you that there are now two inputs in this song. Clicking on each input will play (solo) that sound.
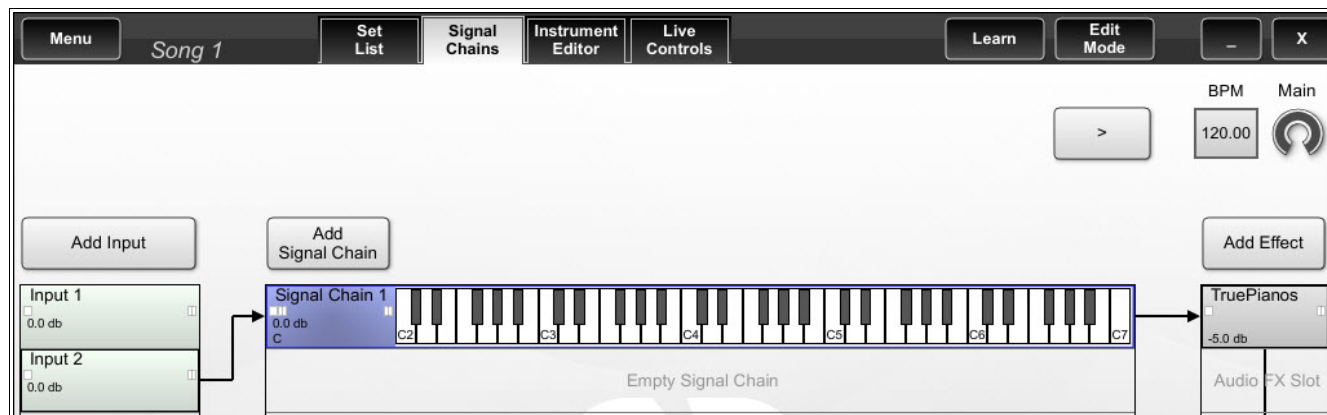
Creating Keyboard Splits in a Song (Signal Chain)

Creating keyboard splits are now easier than ever! Select the input you want to create a split on. Now click the [Add Signal Chain] button. Select a new instrument. For this tutorial, True Piano is in the first signal chain, and Purity is in the second.
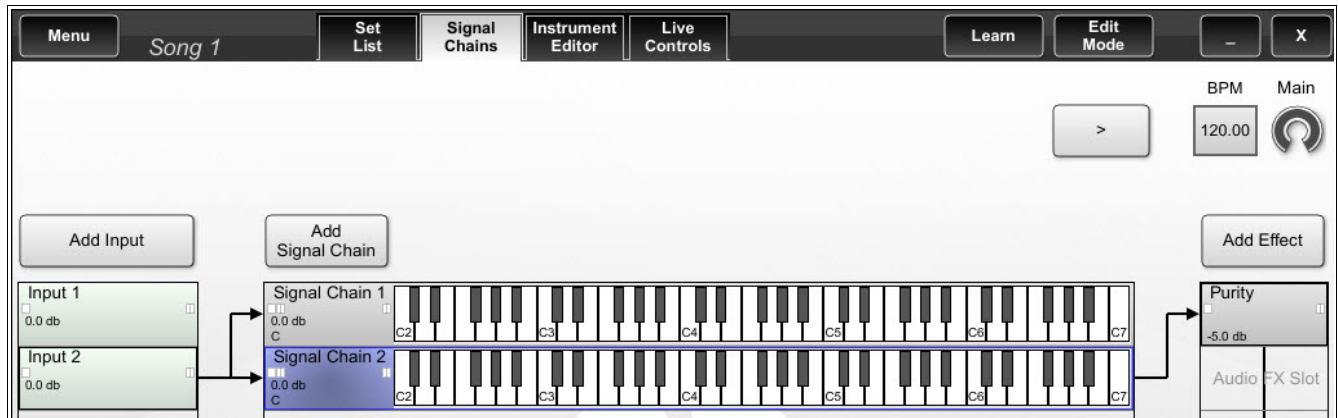
The above image shows that the second input now has two items in the Signal Chain. To adjust the settings of a Signal chain instrument, select it in the signal chain then either select the [Instrument Editor] tab, or double left-click the instrument to the right in the "Stream Processor" section.

There are a couple ways to create splits. You can use the mouse and arrow pointer to create the split. Or you can use the touch screen. Select the signal chain instrument that you want to split and either touch screen/left-click and drag from the right or left of the keyboard. While you are dragging, the ranges will split. The other way is to use the "Set Range" buttons.

If you are not satisfied with a split and want to revert, select the Signal Chain instrument and press the [Toggle Split] button. This will spread the keyboard back to full range with no split.

Now let's create that split using the "Set Range" buttons:

Select the first signal chain. Press the [Set High Range] or [Low Range] buttons. These are located at the bottom of the screen.

Pressing the [High Range] button brings up the following dialogue window.
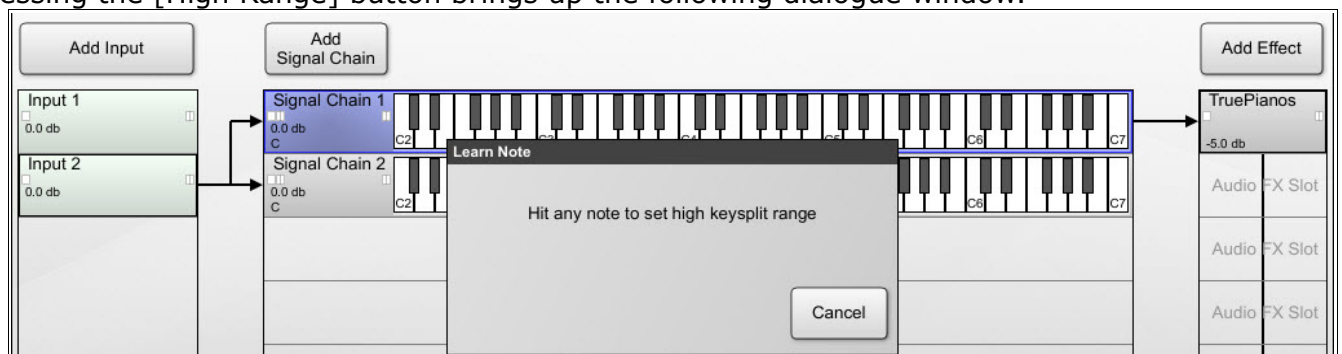
Press the "C3" key on the NeKo/NeKo ivories.
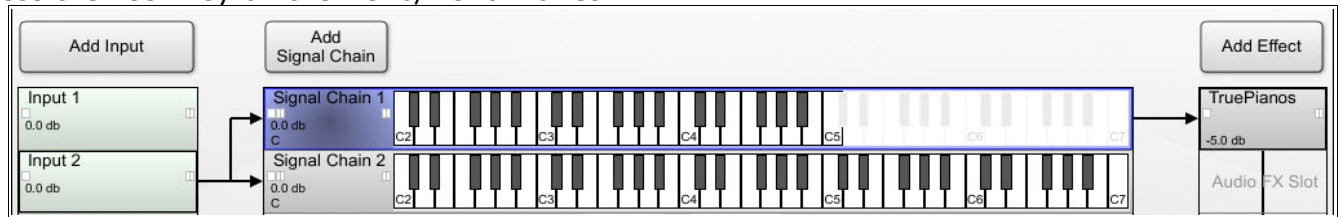
All notes above "C3" are now split off.

Now, select the second Signal Chain. And press the [Set Low Range] button. You will see the following:
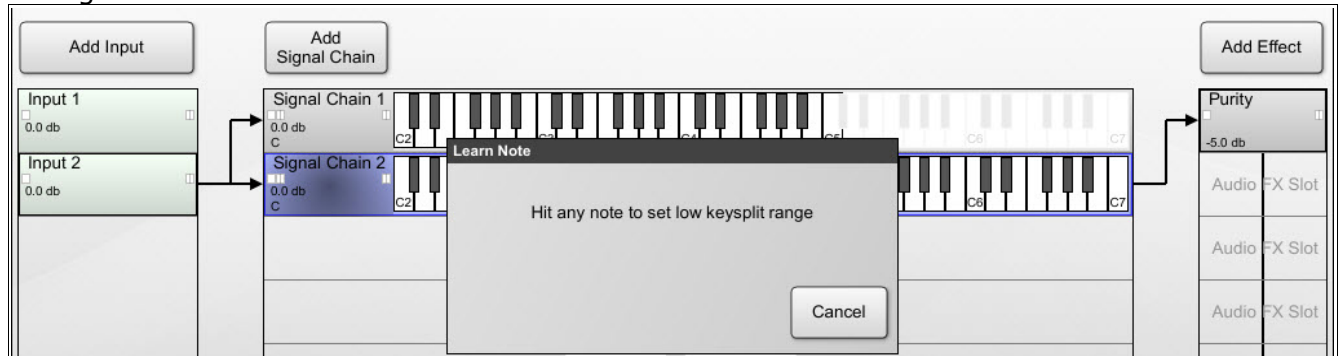
Press the "C#3" key on the NeKo/NeKo ivories.
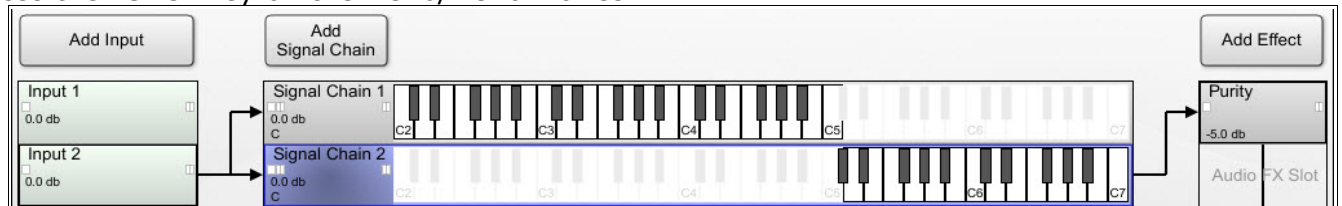
As you can see you now have the lower section of True Pianos split from C3 down, and Purity split from "C#3" up.

Adding Effects to an Input or Signal Chain

You can add a VST effect or MIDI effect to the desired signal chain. A maximum of seven audios, or seven MIDI effects can be chostn per signal chain. *More information regarding the Stream Processor (effects column) can be found in Chapter 3.*
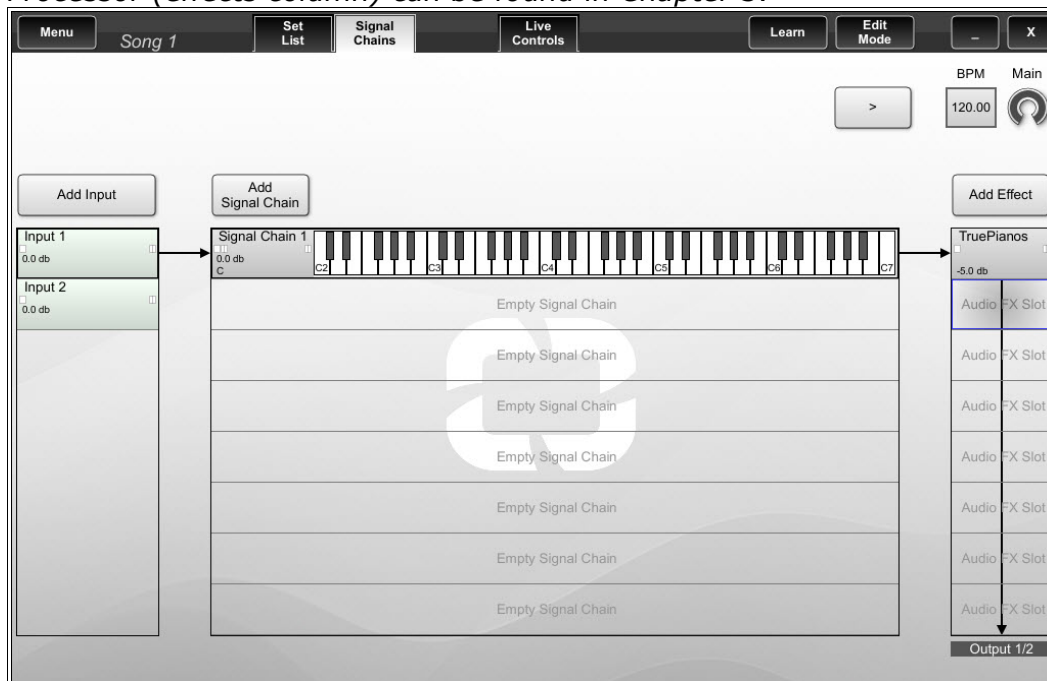
Audio FX Slot: This is where all the audio effects are stored for the chostn signal chain. To add an effect, use the [Add Effect] button located above or simply touch the screen on a blank slot under. Pressing [Add Effect] will bring up an effects browser very similar in workings as the Sound Browser.

You may find it simpler to just touch the Audio FX area, then you will see the following:
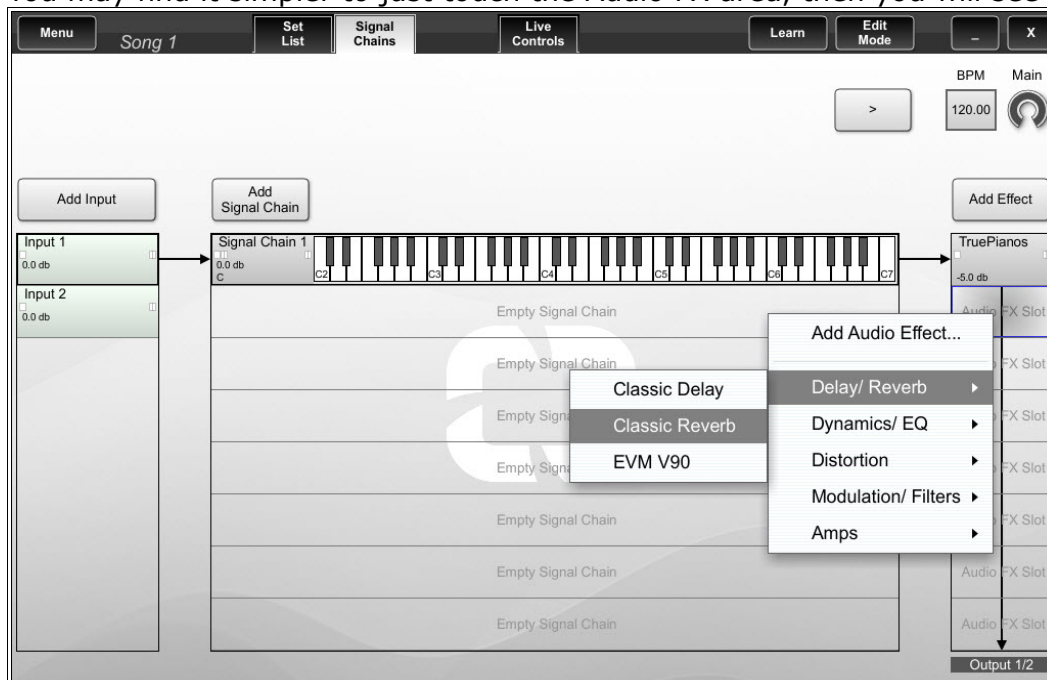
You can choose an effect by the category.

The next screen shot shows that there is an effect (in the Stream Processor) under True Pianos.

When the effect is selected the "Effect Editor" will be present in the title bar.
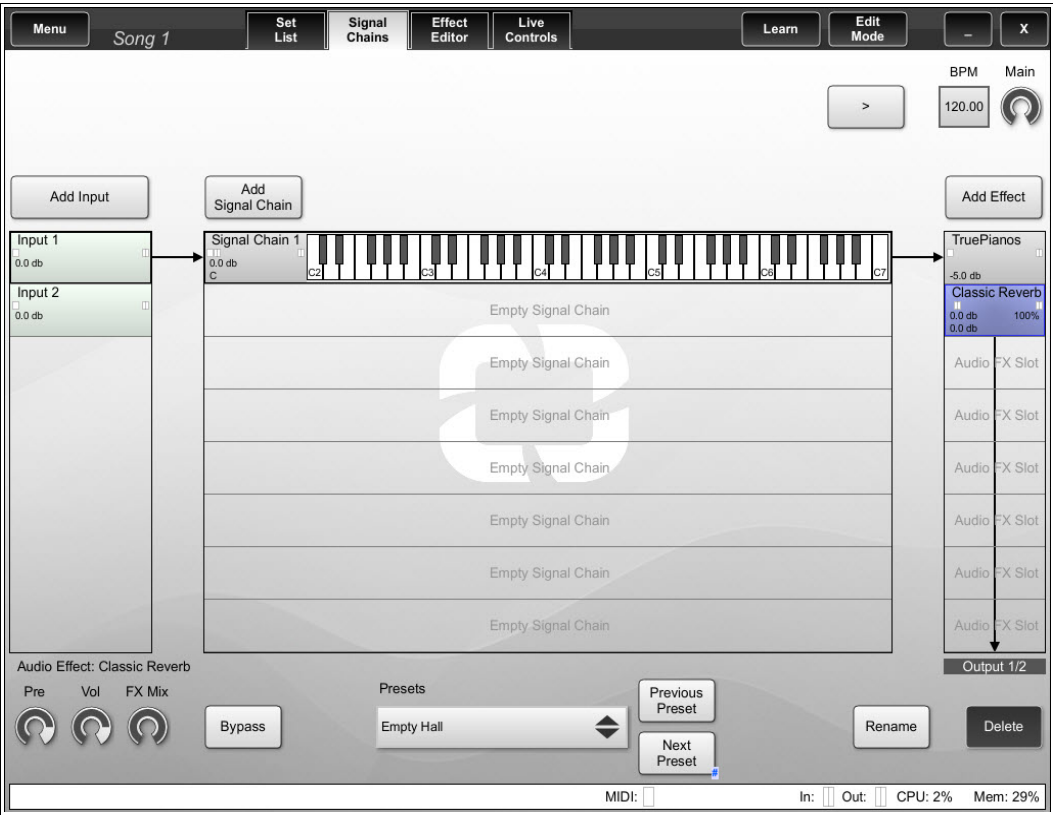
Adding MIDI FX

To add a MIDI FX, left-click and drag the VSTi down by one slot, and this will open up the MIDI FX slot. If there is already an instrument and an audio effect already present, you will have to move each effect down one slot to open up the MIDI FX slot.
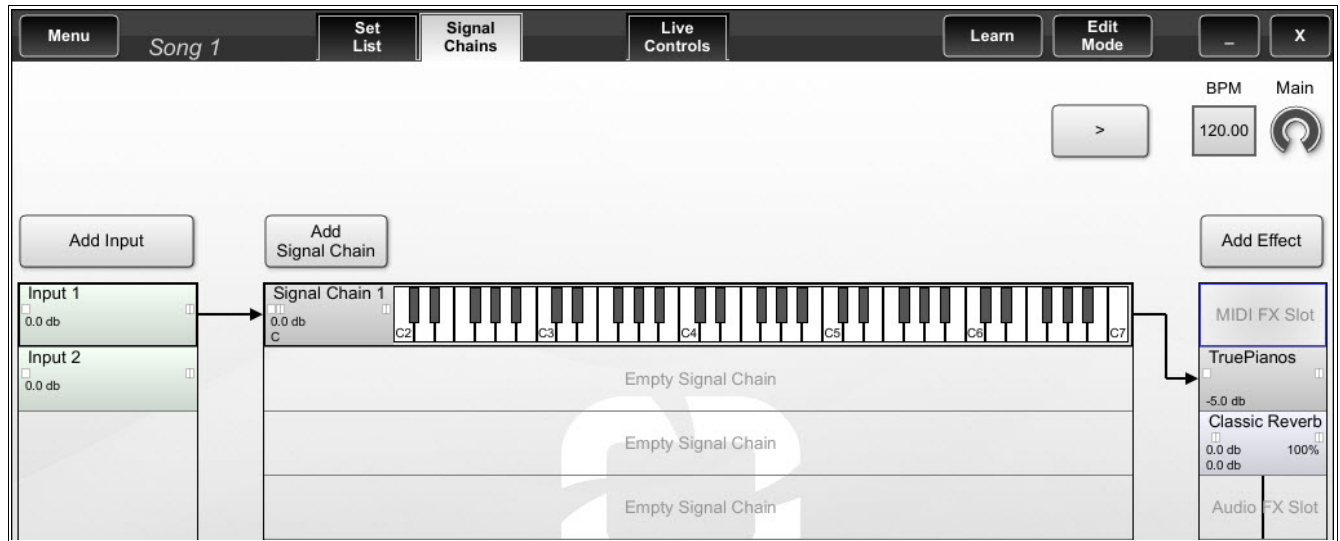
Right-click the "MIDI FX Slot" and select [Add MIDI Effect..].
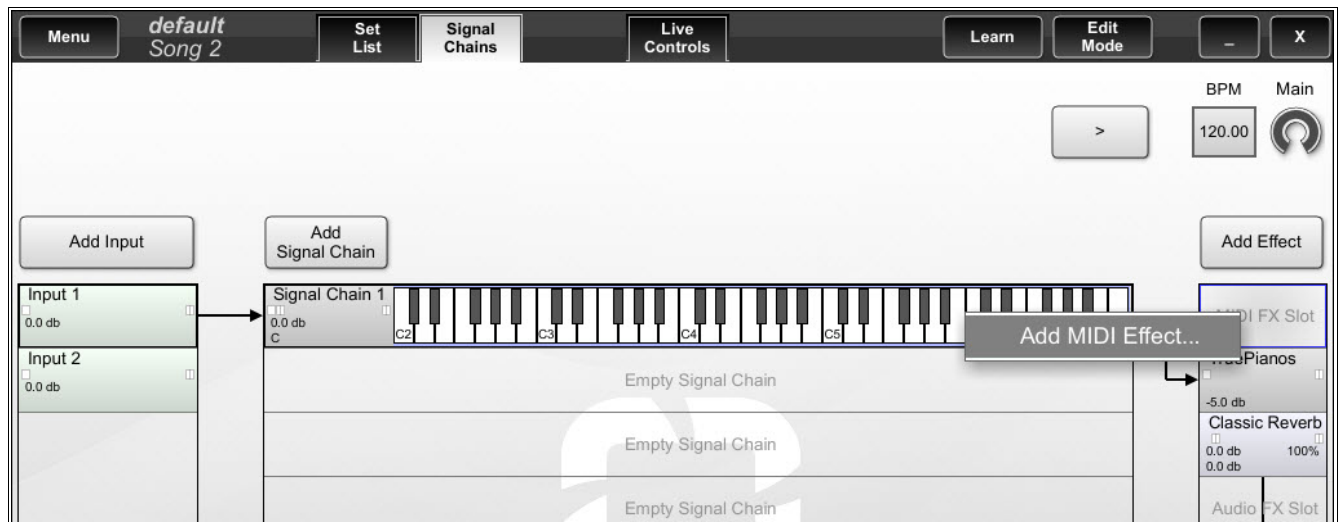
A screen similar to the sound browser will appear, here you choose the MIDI effect. The type of MIDI effects you can expect to find here in Riff are arpeggiators, MIDI note repeaters, basic MIDI step sequencers, humanizers, etc.

The next screen shot shows the MIDI effect "Sequencer Baby" has been added to the MIDI FX slot.
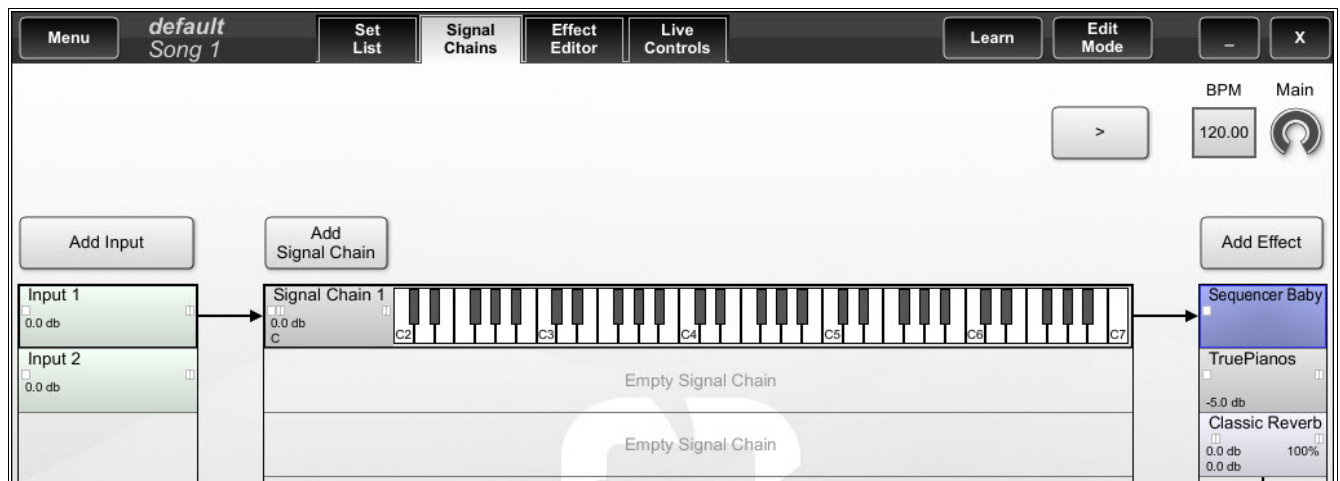
Just like regular audio effects, a MIDI effects parameters can be edited via the effect editor.
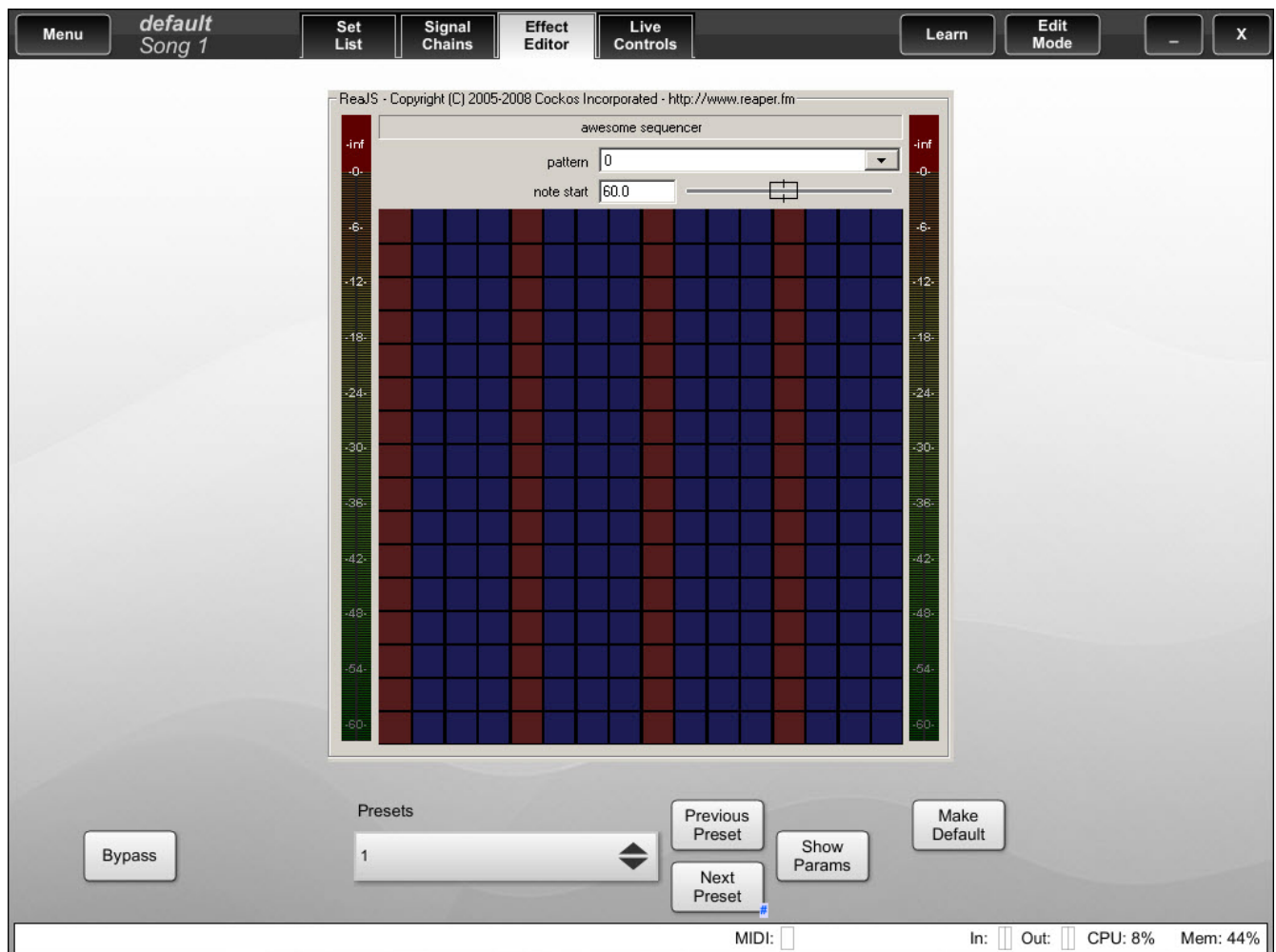
Creating and using Audio Inputs

Riff allows you to feed the signal chain a signal from a live input device, such as a guitar, bass, or microphone. *Refer to Chapter 1 for audio device setup options.*

Click on the [Add Audio Input] button to insert the audio input to the signal chain.
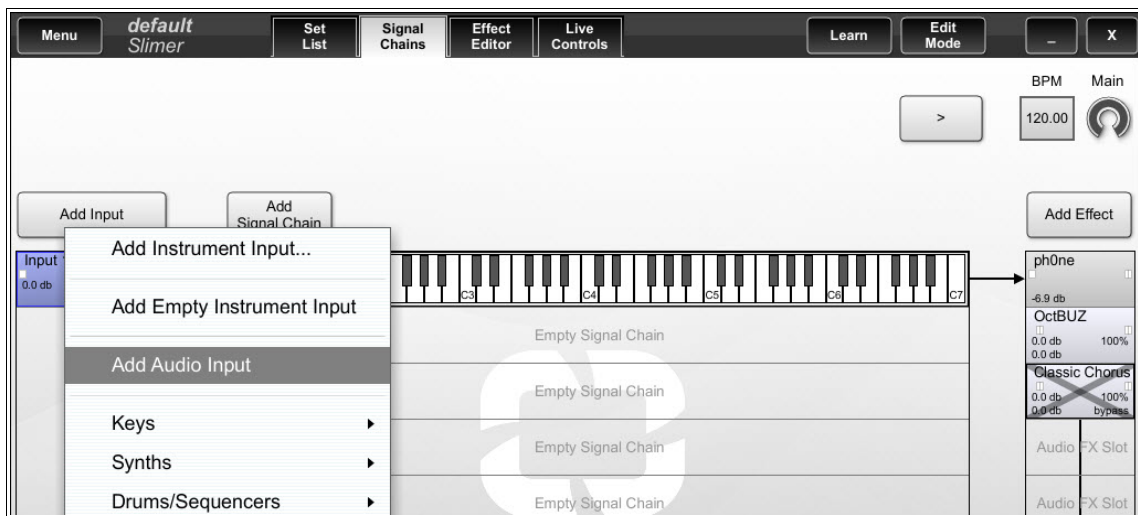
Once the input is inserted, click the [Input Output] button in the center of the lower control section. Use this to configure your audio input source.
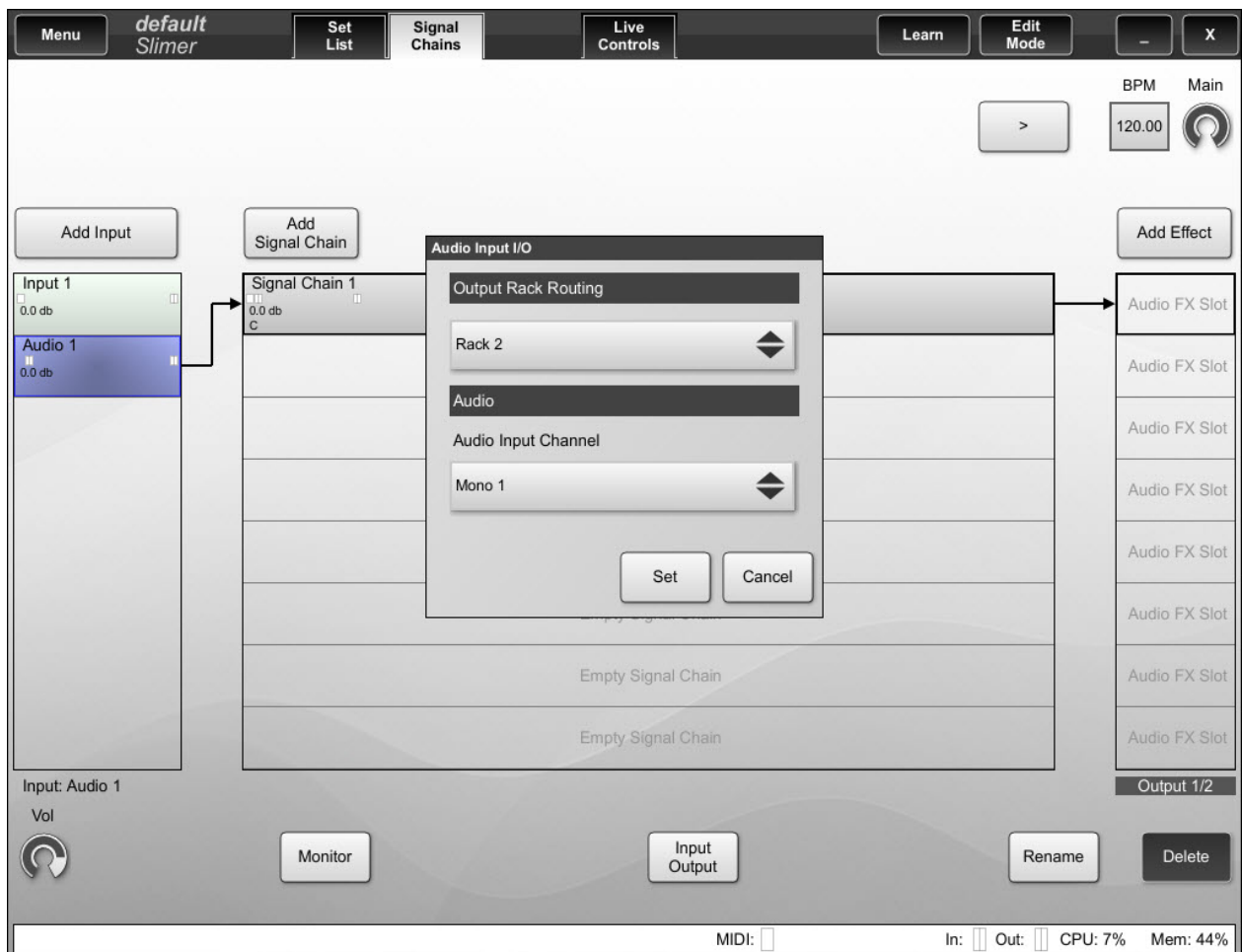
Edit Mode vs. Live Mode

Edit Mode: Changes can be made to a song's parameters.

Live Mode: Locks down many of the parameters associated with songs.

MIDI Learning Hardware Controllers

Most parameters in Riff can be MIDI "Learned".

The first tutorial will show you how to MIDI learn an Riff button to a hardware button on the NeKo/NeKo.

First off, return to the Set List and add a couple of Songs. This will show you how to MIDI learn hardware buttons to control the Previous and Next Song command.

Right-click on the [Previous Song] button.
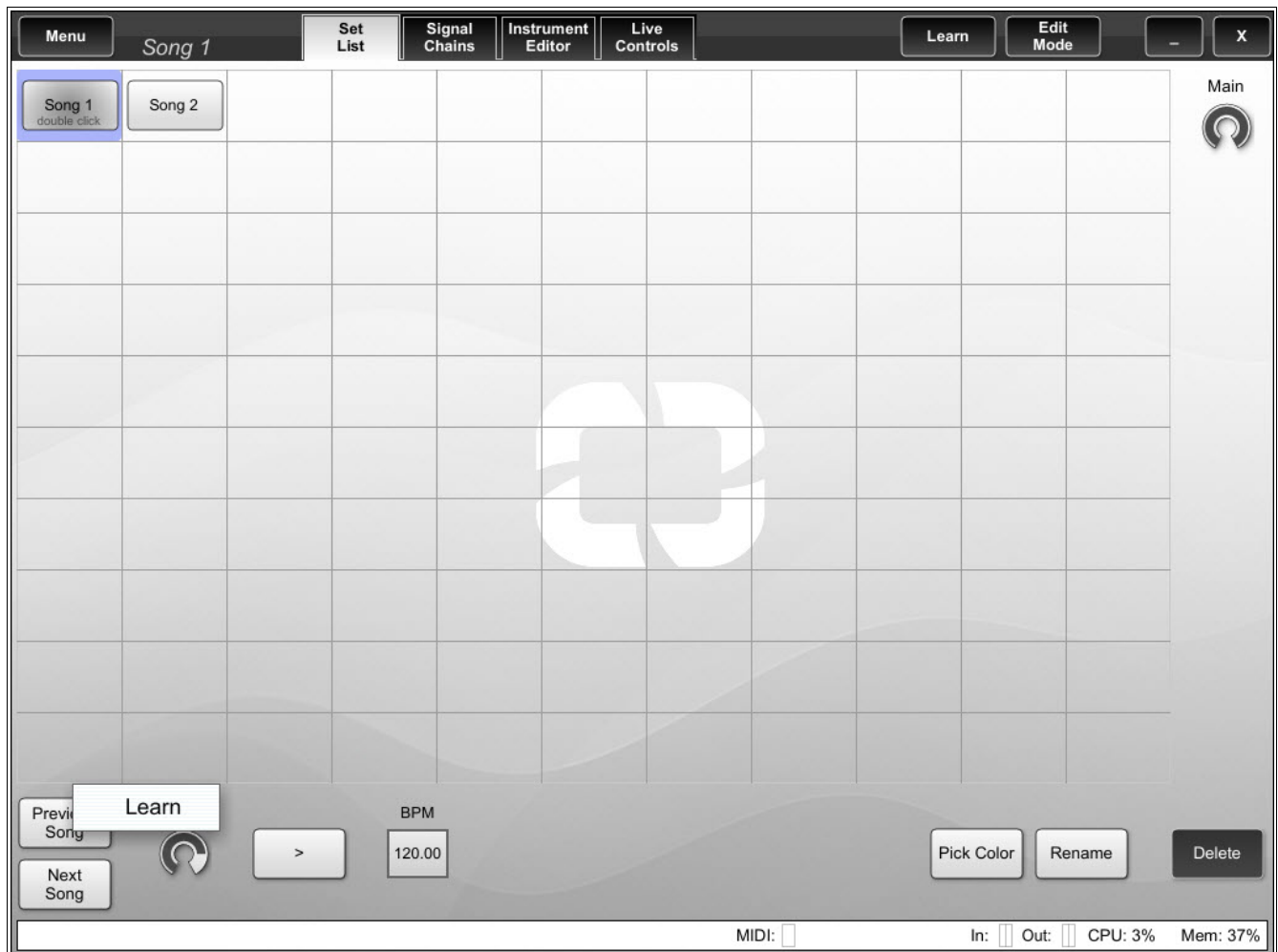
These are the items you can see in this window.

1. *Learn* – MIDI learn maps host buttons to MIDI controllers, virtual live controls to VST's, and virtual live controls to MIDI controllers.

Once you select "Learn" the screen will turn red which means Riff is waiting for you to press a button on the NeKo/NeKo. If you look at the Title Bar you will see the [Learn] button now says "Learning". To cancel learning, press the "Learning" button.

Select a button on the NeKo/Neko, once you do this the control will be latched. The following picture shows a small icon in the lower right corner of the [Previous Song] button. This represents that this control has been latched to a controller.

The [+] sign is for something that has been learned, the [#] sign represents that a control has been learned relative.

Right-clicking a control that has been MIDI learned will yield new options.
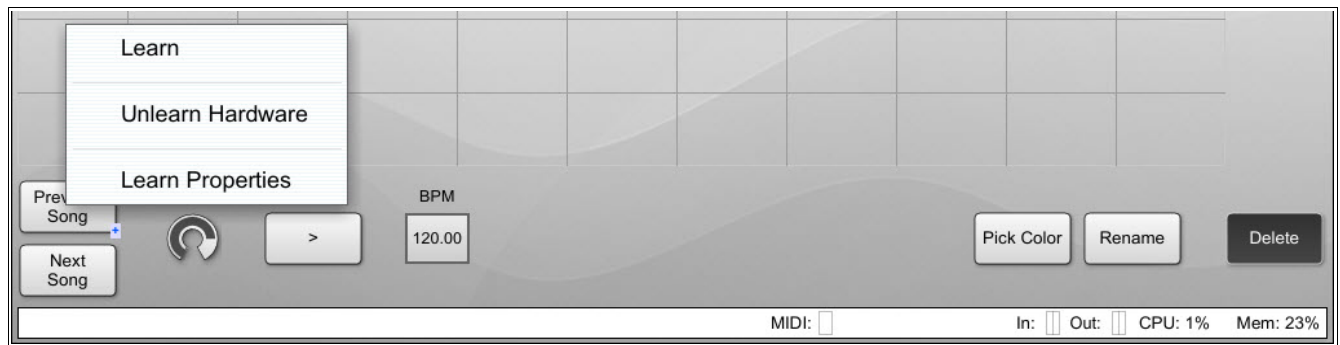
1. *Learn* – MIDI learn maps host buttons to MIDI controllers, virtual live controls to VST's, and virtual live controls to MIDI controllers.
2. *Unlearn Hardware* – Use this to release a mapped item from it's MIDI controller. *This option is only available when you have an item mapped.*
3. *Learn Properties* – The following image shows the options in learn properties. *This option is only available when you have an item mapped.*
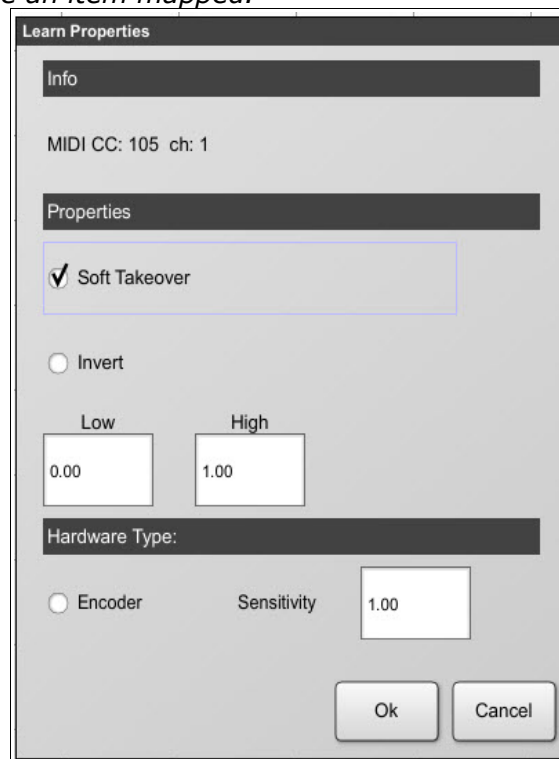
Info: this section will tell you the MIDI CC number, and the MIDI channel a particular control has been mapped to.
Properties:
  • *Soft Takeover*: Allows the user to realign a latched hardware controller to the corresponding VST parameter smoothly.
  • *Invert*: Reverses the high/low or on/off settings of a Live Control.
  • *Low/High*: Refers to the minimum and maximum value of a parameter's range.
Hardware Type:
  • *Encoder*: Informs Riff that an encoder hardware control is being used to perform as a regular knob. Instead of sending +/-1 it will scale from 1 to 127.
  • *Sensitivity*: Will change the rate at which the value is increased or decreased. It's similar to the "touchy" knob in live controls.

Learn Relative

Various controls in Riff can be set to MIDI "Learn Relative".

Learning a parameter to "Learn Relative", keeps that mapping for all songs. For example, if you learn relative the signal chain mute:
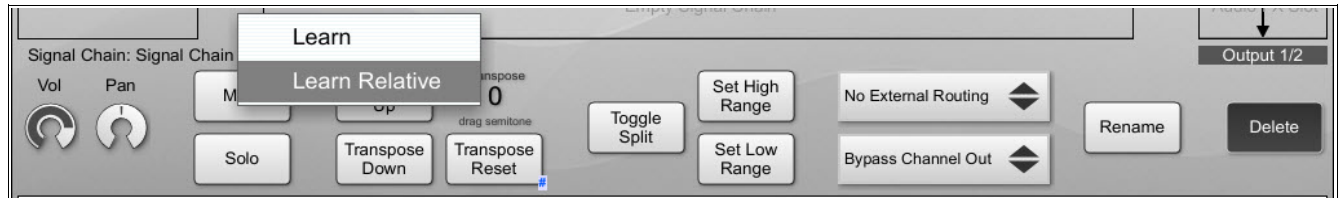
It will mute the highlighted signal of any song (not just the particular one you are in). As long as you save this set, when you close Riff and reopen it, the learn realative mute will still function the same across all songs.

Here are some controls that can be learned relative:

- Setlist lower section Volume
- Setlist lower section play button
- Signal Chain page lower section volume
- Signal Chain page lower section Monitor button
- Signal Chain page upper control play button
- BPM Tap tempo button
- BPM +1/-1 buttons
- Signal Chain instrument lower section volume
- Signal Chain instrument lower section pan
- Signal Chain instrument lower section mute
- Signal Chain instrument lower section transpose up/down
- Signal Chain instrument lower section transpose reset
- Instrument editor lower section volume
- Instrument editor lower section transpose up/down
- Instrument editor lower section transpose reset
- Instrument editor lower section previous/next preset buttons
- Live controls lower section low/high knobs (all live controls Virtual Live Controls)
- Live controls lower section knob/horizontal properties time and offset knobs

Creating and Using Live Controls

The Live Controls are where virtual knobs, sliders, buttons and XY pads can be created, and mapped to MIDI controllers on VSTi plug-in parameters. You can also create Live Controls for VST effect plug-ins.

Here is an example of a Live Control set made for a VSTi.
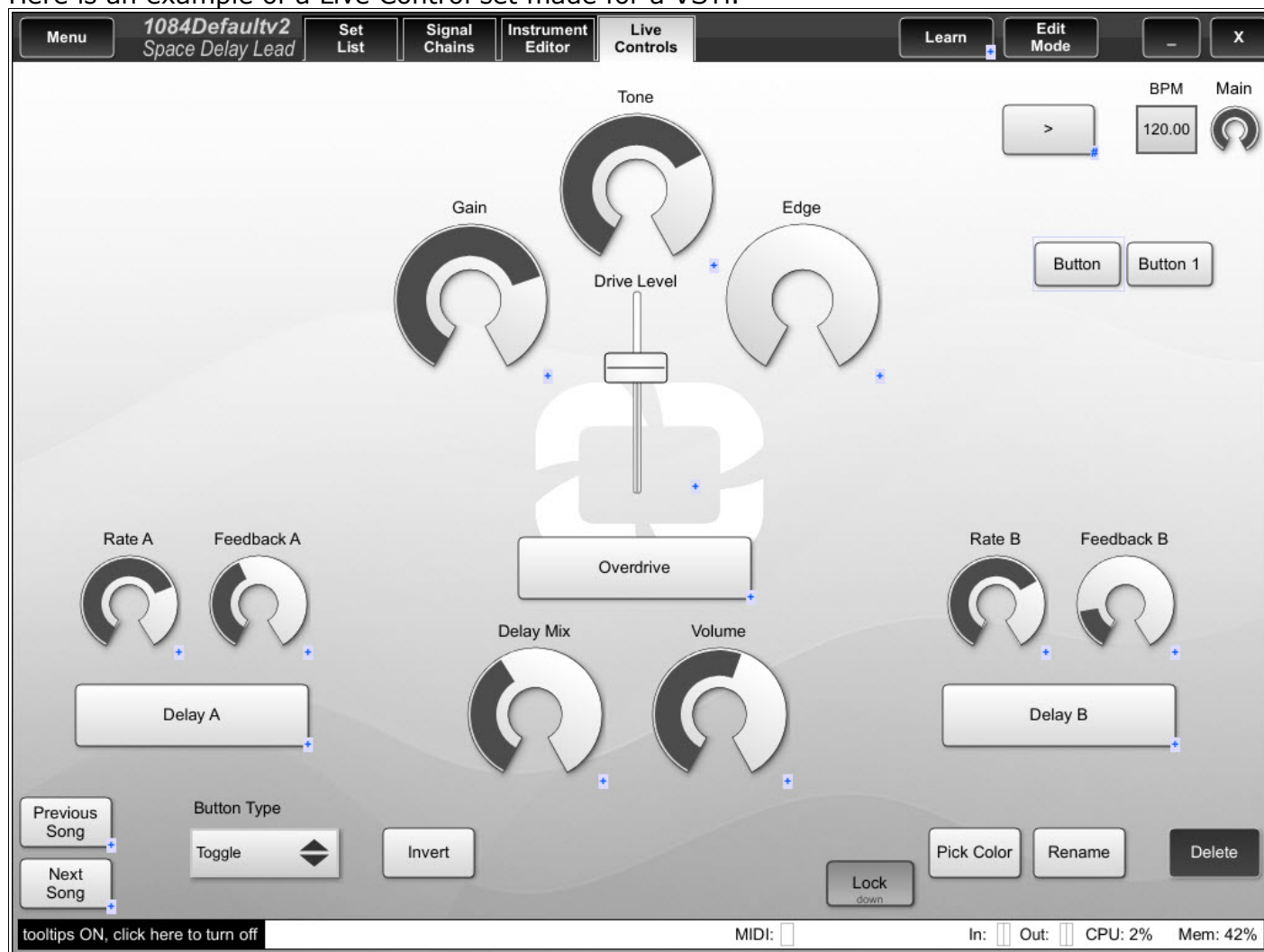
These controls can be directly linked to the parameters of a VSTi or VST.

Hovering over a latched Live Control like the volume for instance, will allow you to see what parameter a Live Control is latched to. *Not all VST plug-ins will give such detailed information.*

<u>Create a New Live Control</u>

To create and use a Live Control with an instrument, try the next tutorial.

First, create a new Song. For this tutorial insert the plug-in called "MrRay22". Click on a grid, go to the "Keys" category and select "MrRay22".

Click on the instrument editor tab to show the GUI of Mr. Ray.

The first Live Controls will be for the "Strength", "Stiffness", "Rel", and "Kbd" knobs in the Mallets section.
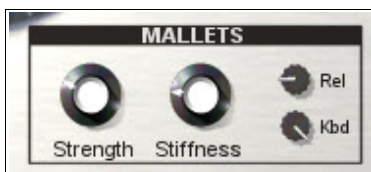
Click on the "Live Controls" tab. And add a Knob to the grid.
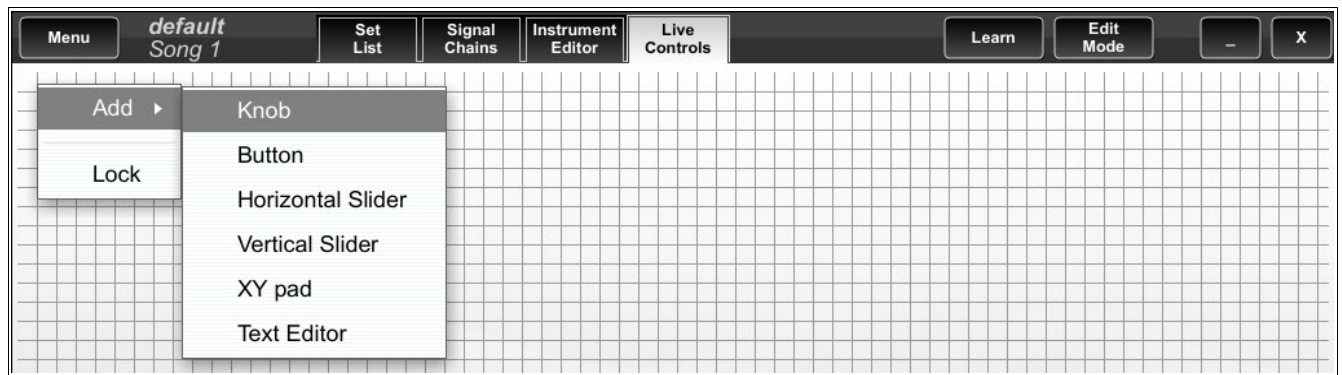
Repeat this step three more times for a total of four Knobs.
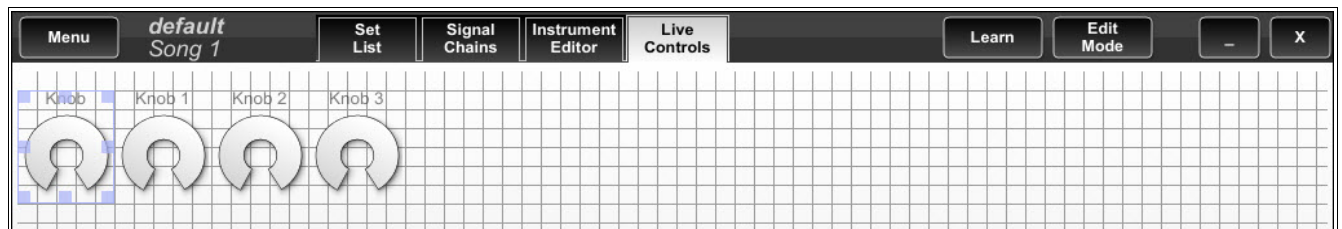
Select the first Knob, right-click it and select "Learn".
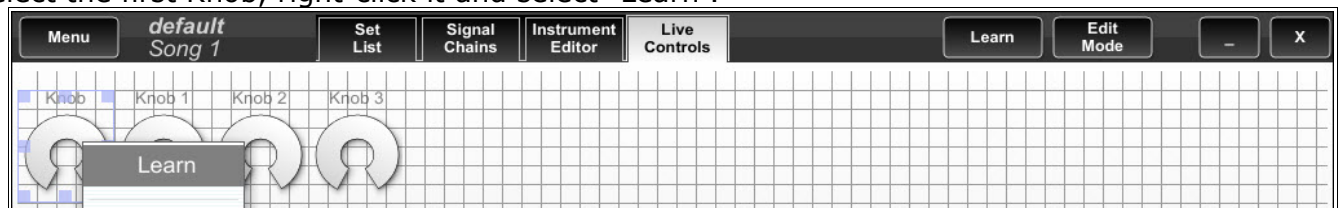
Once you do this, the entire grid will turn red indicating a control ready for "Learning".
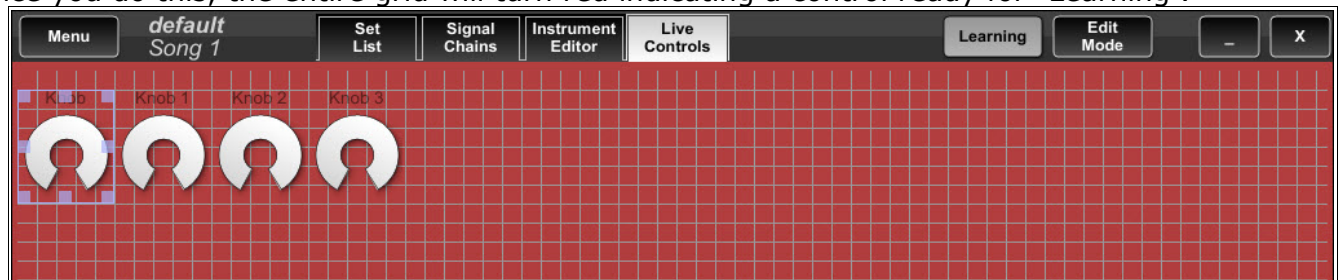
When Riff is in Learning mode, the program awaits for you to select a parameter to latch this knob to.

Click the "Instrument Editor" tab to get back to the GUI of Mr. Ray. Touch the "Strength" knob using either the touchscreen or the touchpad.

This screen will turn back to the default color and this control learned to the Live Control. Click on the "Live Controls" tab once again.

Switch Riff over to "Live" mode, play notes on your keyboard, and use the touchscreen to move the first knob.
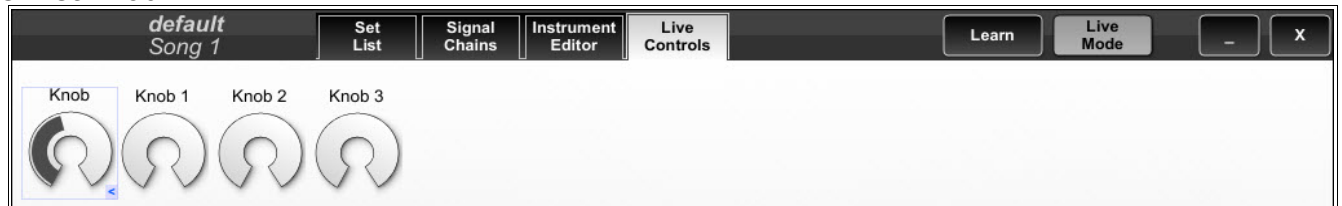
Hovering over the first knob shows it to be mapped to Mr. Ray, Param 23 which is Mallets: Strength.

To rename or change the color of a Live Control, switch back to "Edit Mode" select the Live Control and press the [Pick Color] or [Rename] button.

Go ahead and learn the other three knobs to the controls of the Mallets section of Mr. Ray.

Using Oscillators with Knobs/Sliders

Knobs and sliders can have an oscillator added to them.

First off, setup a knob in your Live Controls. For this tutorial, I am going to use the same Live Controls made in the last tutorial with Mr. Ray.

Click on the knob, then select the "Oscillator Type". Pick the type of osciallater type you would like to use. Once you do this the oscillator will take control over the knob.
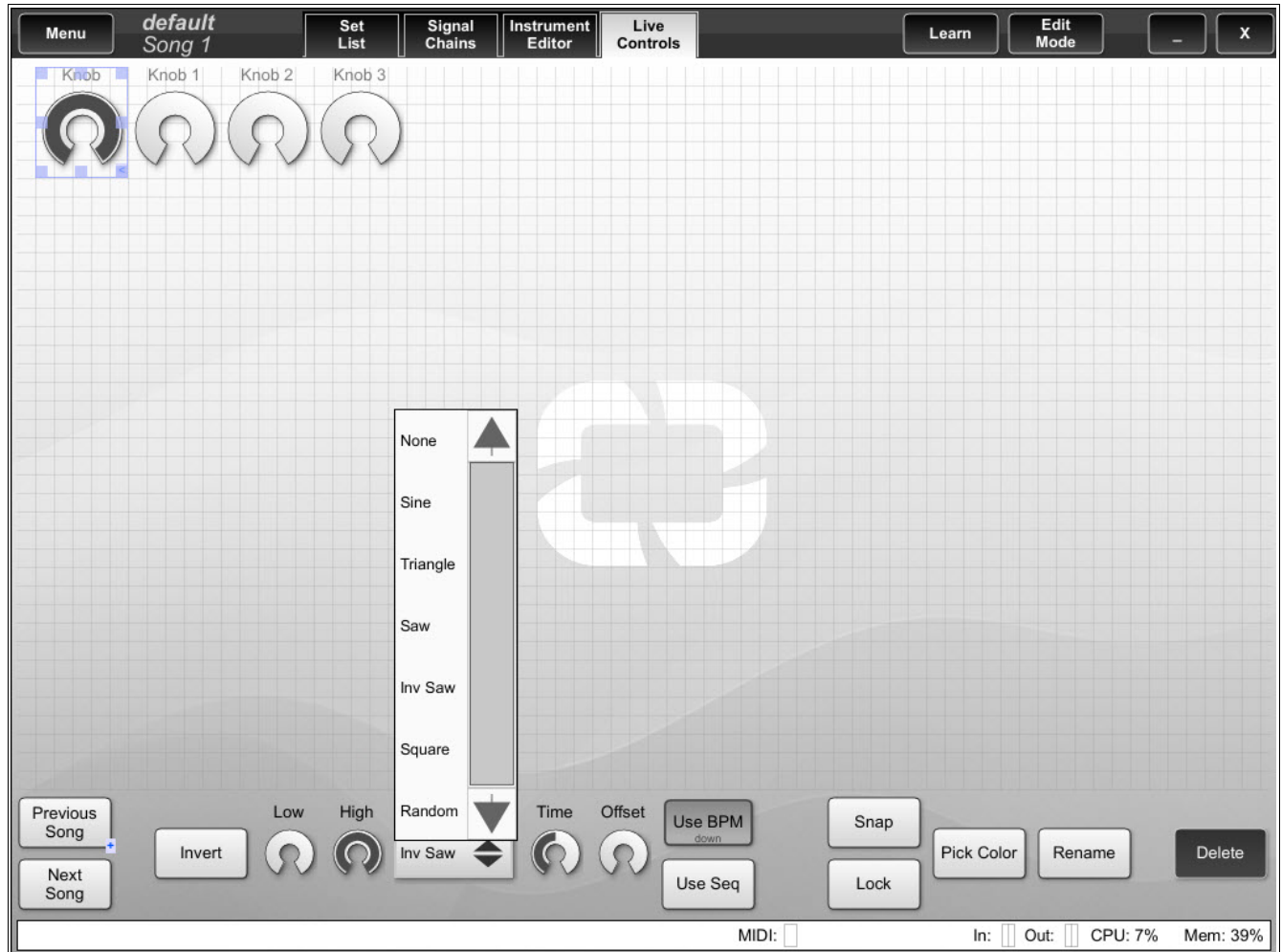
- You can sync the oscillater to the BPM of the current song by clicking on the [Use BPM] button. Also, you can sync to the sequencer host by using the [Use Seq] button.
- You can latch the oscillators to start with the play button of the host and any other sequencer that has been synced to the host. When you hit play the oscillators start oscillating along with a sequencer (if you have put it to sync with the host). *This only applies to the selected live control.*

Mapping Live Controls to the Lower Control Section

If you have an oscillator latched to a Live Control knob, you can have that oscillator control the volume or pan control of a signal chain. The following tutorial will show you how to MIDI learn a Live Control Oscillator to the volume knob of a signal chain.

Create a new Song and add any instrument.

1. Go to the [Live Controls] tab and add a new knob. Select the new knob and add an oscillator.
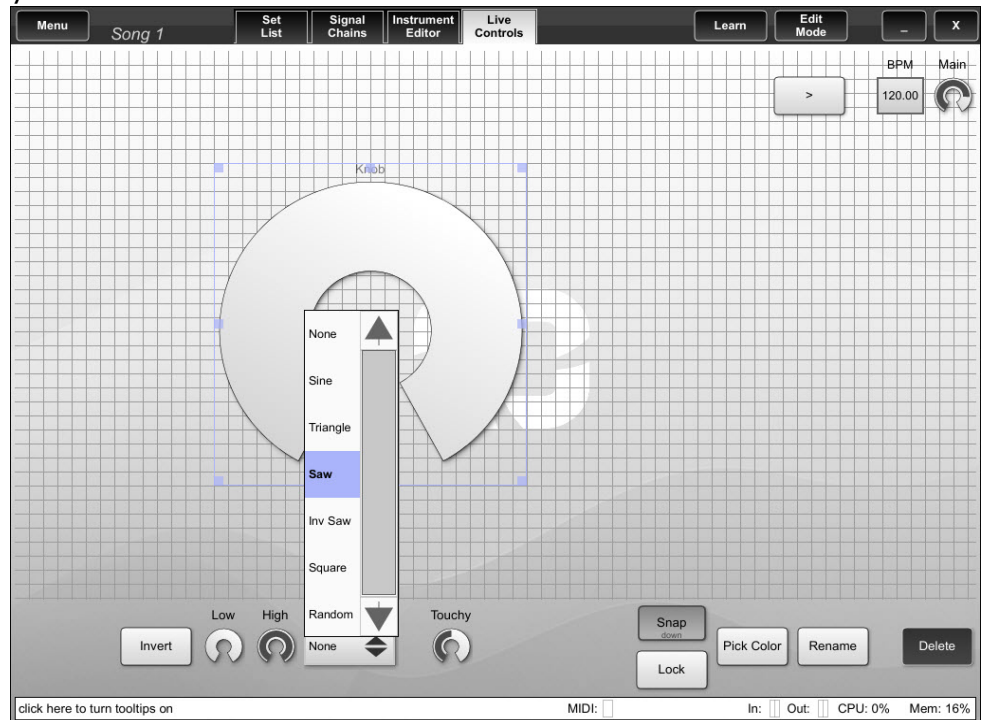
2. Select the [Learn] button, then select the Knob.

3. Select the [Signal Chains] tab and select the volume knob in the Lower Controls.

Saving and Exporting Live Controls

Saving the Live Controls with the instrument will ensure that every time you open this Set this instrument will have these same live controls, and they are ready to use.

If you create a complete Live Control set for an instrument or Song, and want to save just the control array, you can Export this out of Riff for use with another song. Keep in mind, no mappings will be kept in this type of export. To export, go to Menu>File>Export>Export Live Controls, type in a name and hit [OK].

Using Multi-timbral Instruments / Sharing Instruments

This section of the tutorial will focus on using Multi-timbral instruments in Riff, but will also give you some insight on using the "Shared Instrument feature". We will you show you two ways to use a multi-timbral instrument.

A multi-timbral instrument is a VSTi that can use up to 16 MIDI channels at once. Purity is an instrument that falls into this category, and is also preinstalled on an Open Labs production station.

If you are using an Instrument like Purity, which is multi-timbral and a sample player, the benefits are crucial.

Using the "Currently Loaded Instrument" option allows you to use one instance of an instrument in multiple songs. This will save you tons of system performance and allow you to achieve far more complex instrument arrangements.

Anytime you are using big libraries it's a good idea to set an instrument to shared.

Shared instruments are not limited to an instrument having to be multi-timbral. You can set any instrument to be shared. Some normal instruments like True Pianos can be shared. True Pianos is known to use more system resources than other similar instruments. Instruments that sound better generally use more resources.

Sharing Instruments

To help save system resources, Riff has a great solution. This solution is called sharing instruments. For instance if you are planning to use the instrument "Purity" on more than one Song, normally you would have to load a new instance of Purity on each Song.

Every time you add a new instance of that instrument you use more system resources.

Riff allows you to use a "Currently Loaded Instrument" multiple times. Hence, this instrument becomes a "Shared" instrument.

To Share an instrument, first create a new Song, and add Purity to it. After doing that, go to a new grid of the Setlist, select [Add], the sound browser appears. However, this time instead of adding a new instance of Purity, select the [Currently Loaded Plugins] tab.
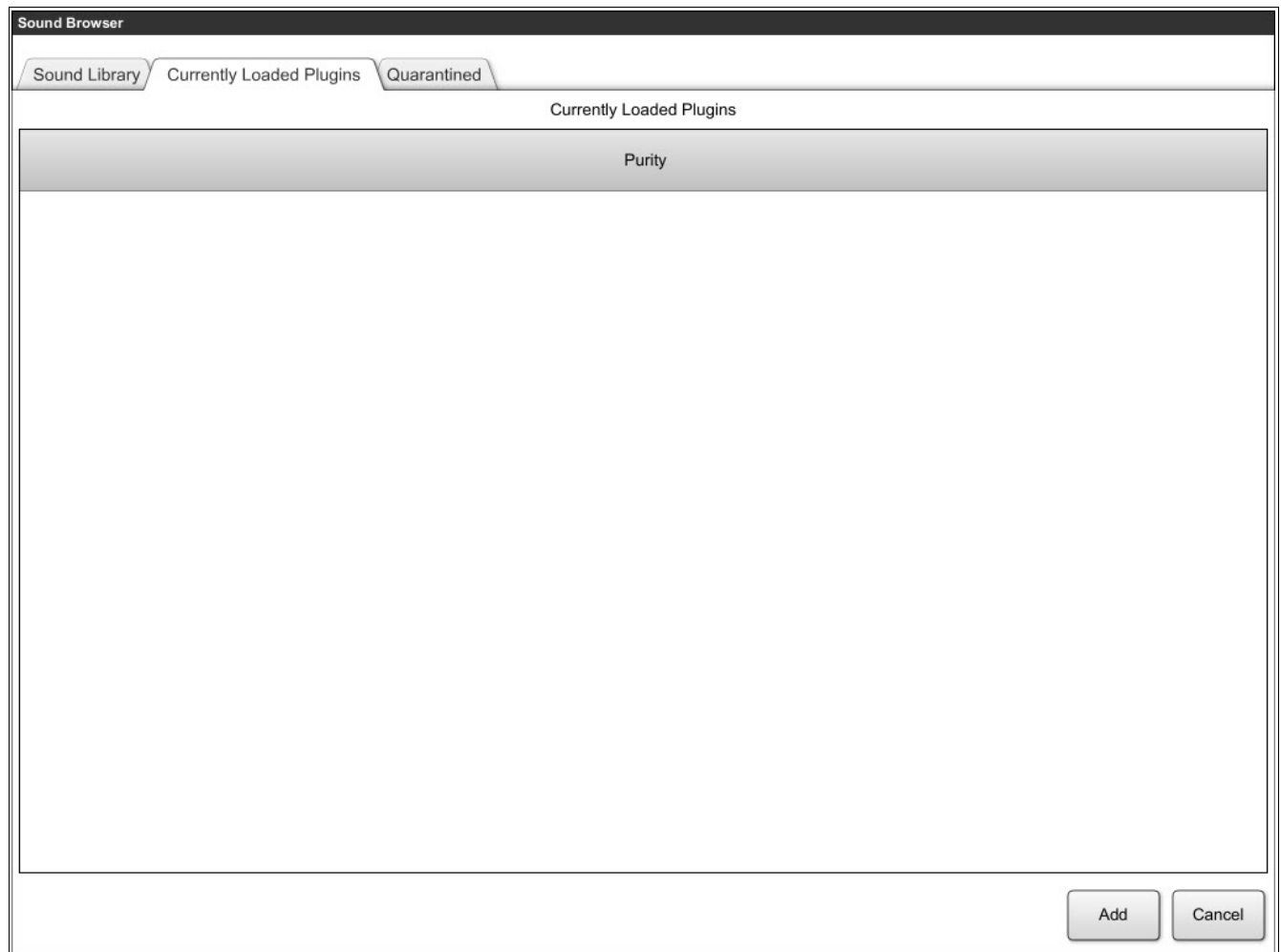
Here you will see your list of Currently Loaded Plugins. Instead of loading a new instance of an instrument, select the currently loaded instance of Purity and either press the [Add] button or double left-click the instrument. This is how you share an instrument in Riff.

The next part tutorial will show you how to use this shared instance of Purity as a multitimbral instrument.

Song Grid and the Multi-timbral Instrument

1. Start a new Song and select [Add].
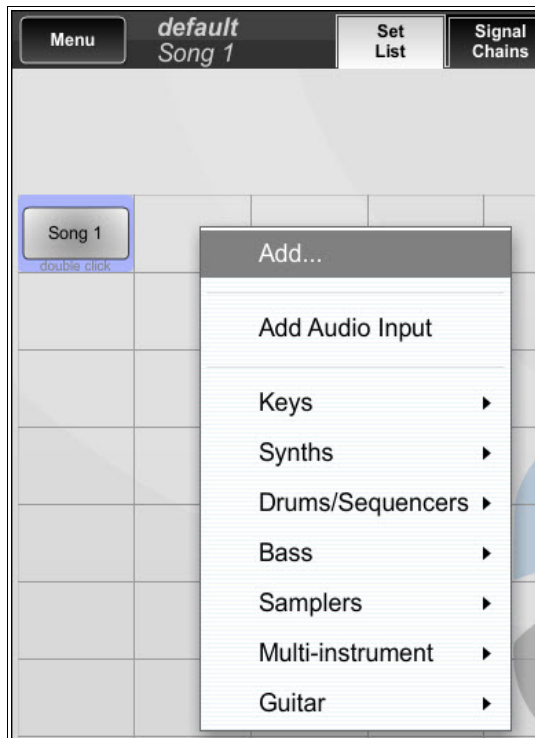
2. Select the [Currently Loaded Plugins] tab and add the currently loaded (shared) version of "Purity".
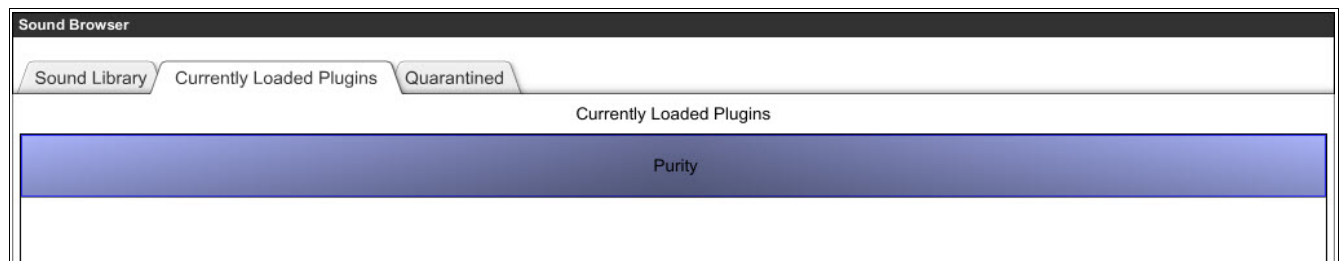
After [Add] has been pressed, a new Song is created with this "shared" instance of Purity as the instrument.

3. Go to the [Signal Chains] tab. Look at the Stream Processor, Purity is now yellow and the word "SHARED" is present in the tab. This confrms this instrument is indeed shared.

Time to set up Purity for multi-timbral use. Purity is just the example for this tutorial, however many multi-timbral instruments work similar.

The goal here is to have one instance of Purity running, utilizing its multi-timbral interface having sounds loaded on separate Songs.

For this tutorial, only four Purity MIDI channels and sounds will be used.

Go back to the Setlist page, select "Song 1" then select the [Instrument Editor] tab, click on the channel link icons in Purity. If this is not done, each pair of MIDI channels will remain linked together.

Before the links are unchecked
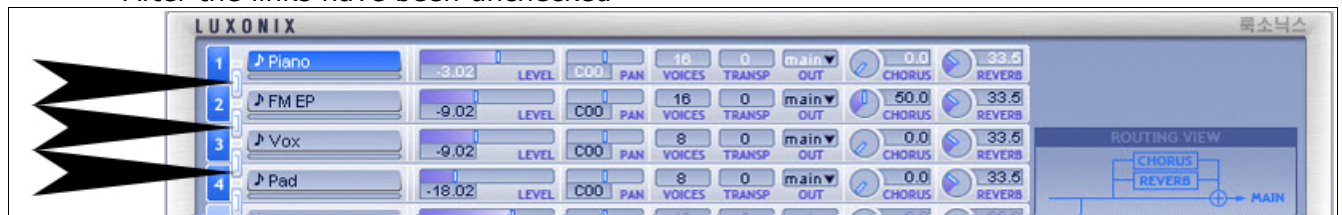
After the links have been unchecked

Other VSTi's will have dfferent sets of rules, however the basic principles will relate. Purity can use 16 instruments at once over a spread of 16 MIDI channels. Select sounds for the one through four slots of Purity. These channels will also represent the corresponding MIDI channels.

Go back to the Signal Chain.
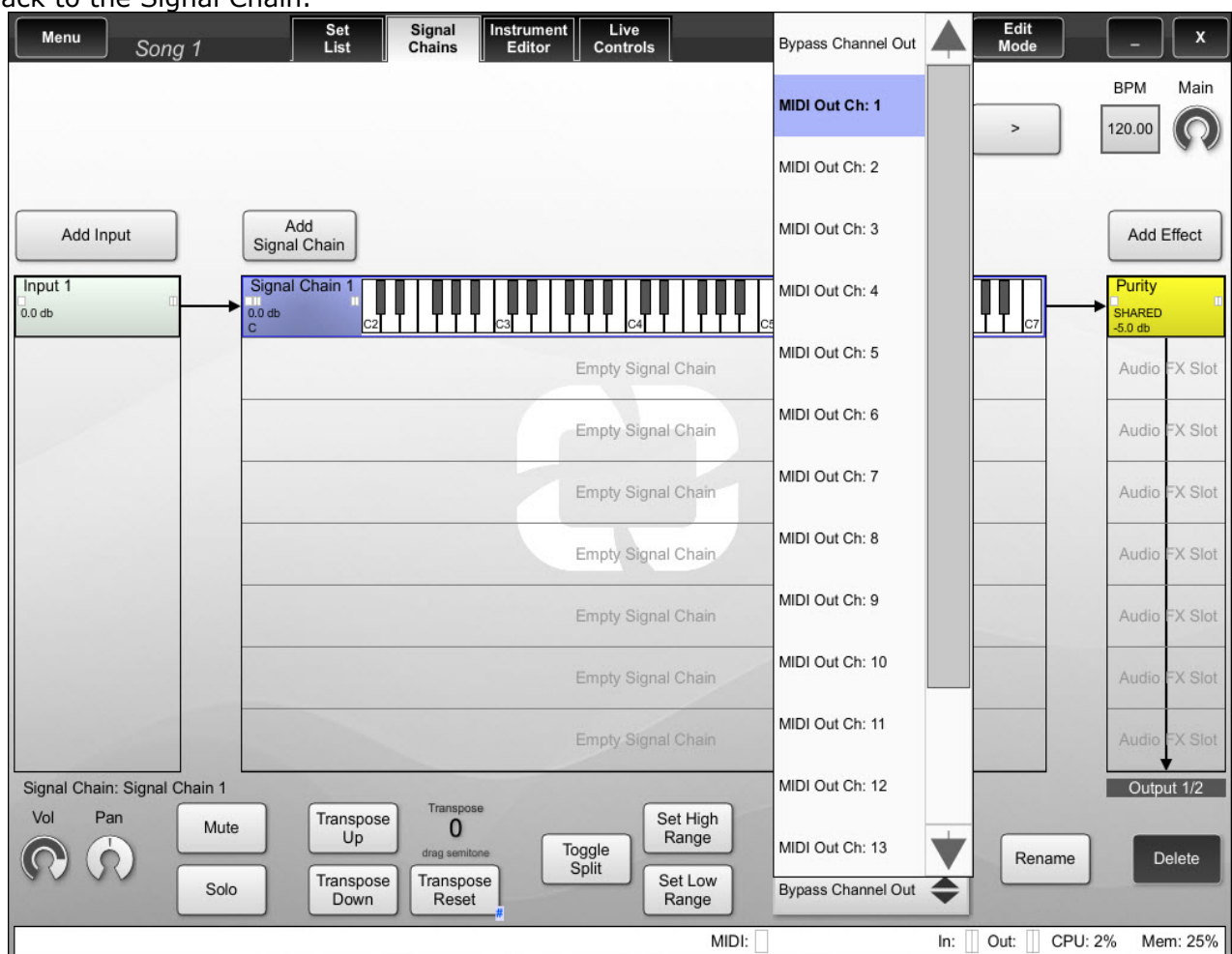
Song 1 should only use MIDI Channel 1. On the Signal Chain page click the [Bypass Channel Out] button in the lower controls and select MIDI channel 1. (See the previous image)
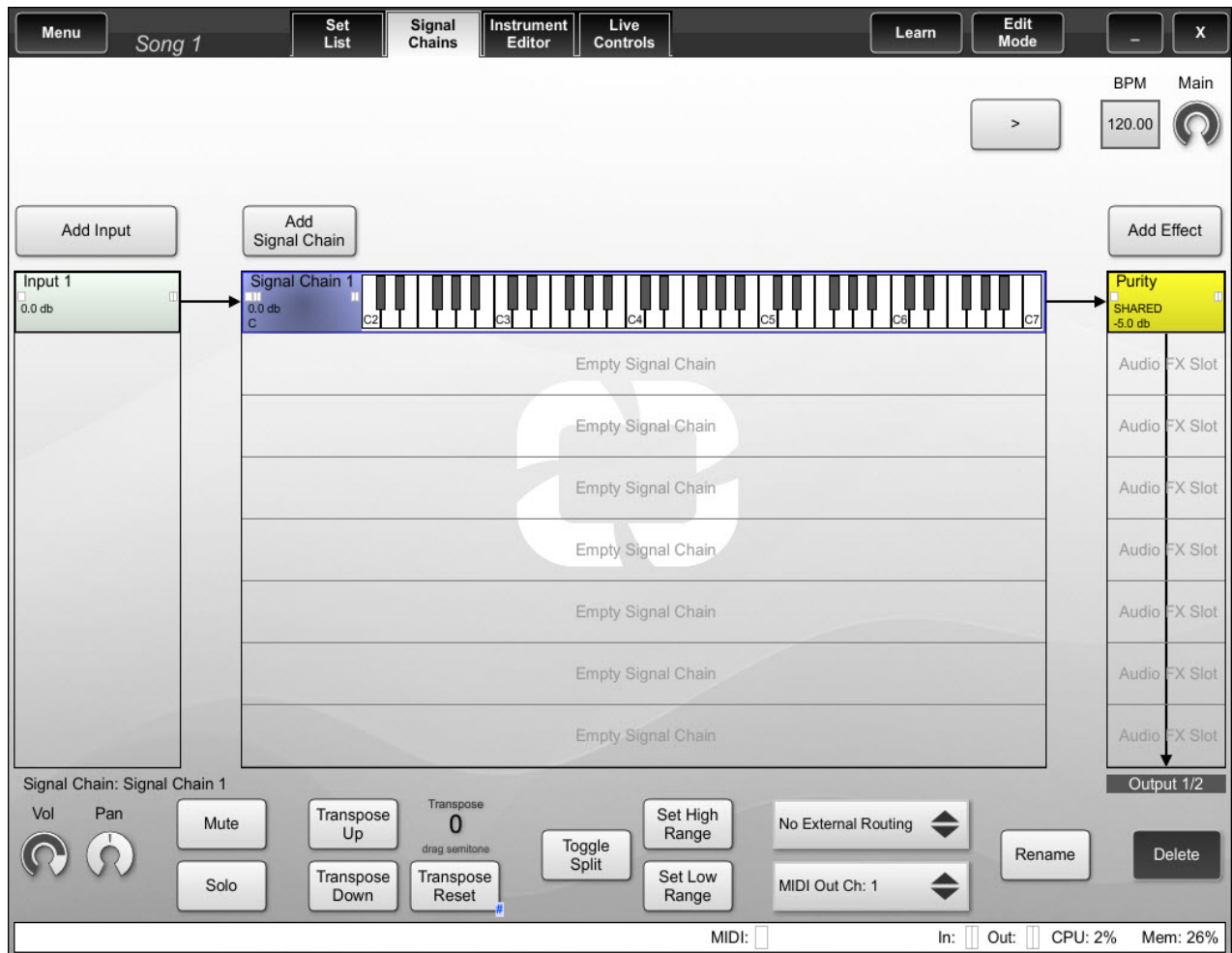
You can see this signal chain is using MIDI channel 1. And will only trigger the sound in MIDI channel 1 of Purity.

Now let us add a second item to the grid that will trigger the sound you have in MIDI channel two of Purity. Also, doing this will allow us to utilize the shared instrument we prepared.

Select a spot directly beside the first Song on your Setlist and click "Add".

Go to the Signal chain of Song 2. Remember this Song is using a "Currently Loaded" shared version of Purity.

We want this Song and Signal Chain to only use MIDI Channel 2. On the Signal Chain page click the [Bypass Channel Out] button in the lower controls and select MIDI channel 2.
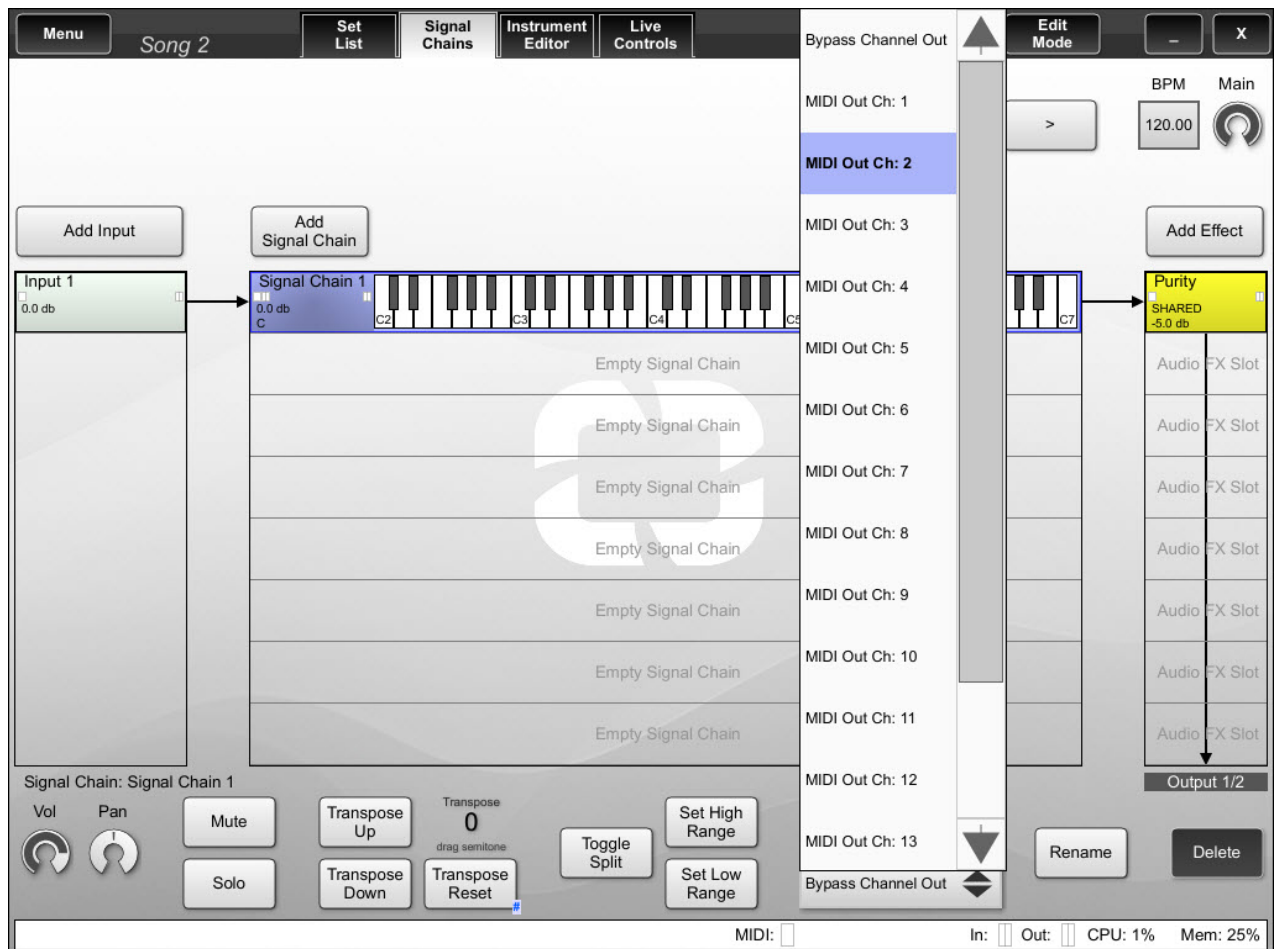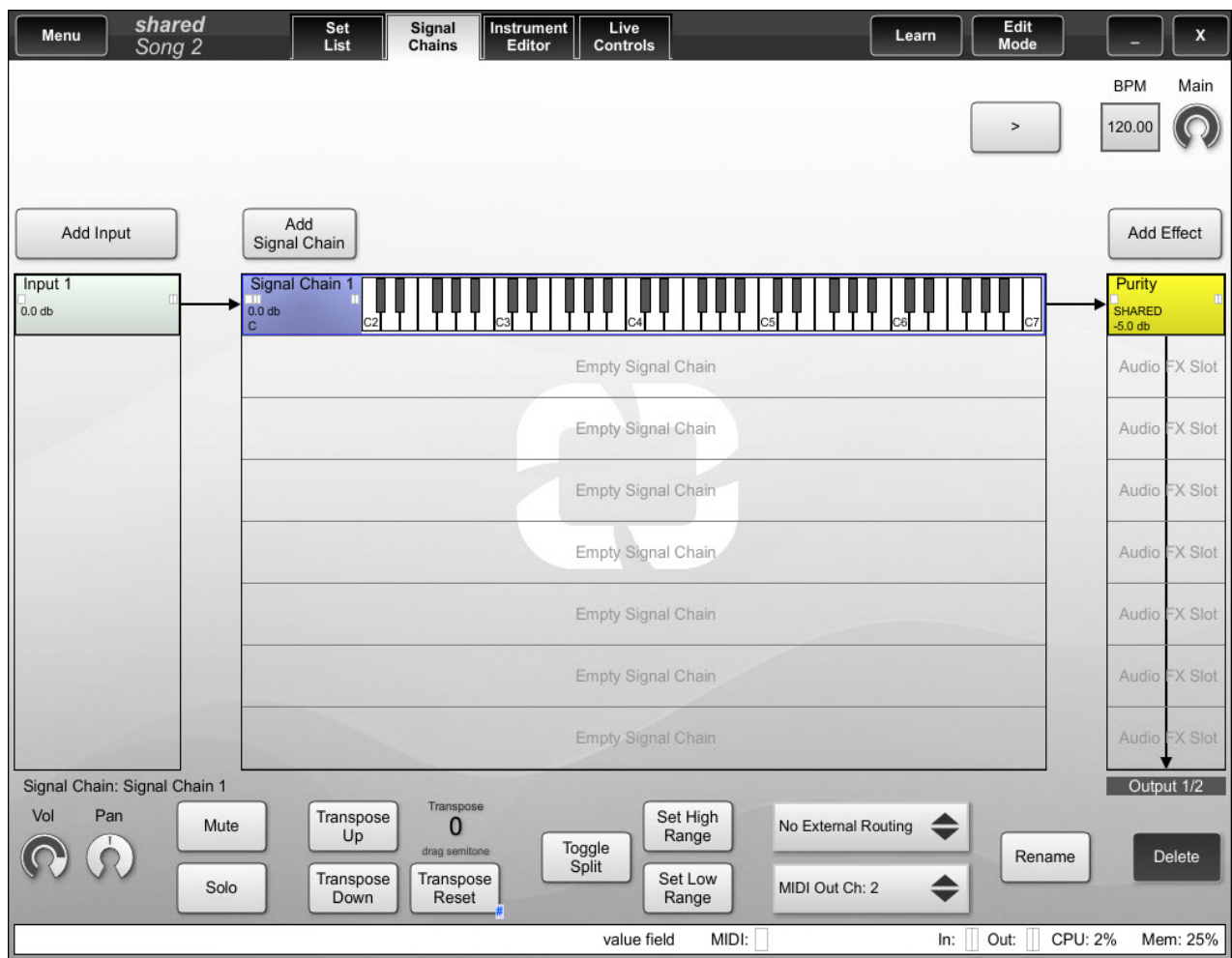
You can see this signal chain is using MIDI channel 2.

Using a multi-timbral instrument this way saves system performance and memory.

Now go back to the Setlist and [Add] another Song (Song 3), as before use a "Currently Loaded" version of Purity. Go to the [Signal Chains] tab of this Song and set it to MIDI channel 3. This will trigger whatever sound you selected for the third slot of Purity.

For the fourth Song, go back to the Setlist and [Add] another Song (Song 4), as before use a "Currently Loaded" version of Purity. Go to the [Signal Chains] tab of this Song and set it to MIDI channel 4. This will trigger whatever sound you selected for the fourth slot of Purity.

Now, when you switch Songs on the Setlist, the selected Song will trigger the adjacent channels in Purity or whatever multi-timbral instrument you are using.

Creating Keyboard Splits with Multi-timbral Instruments

For this tutorial, Purity will be used. Create a Song and add Purity as the instrument.

Select the [Instrument Editor] tab then click on the channel link icons in Purity. If this is not done, each pair of MIDI channels will remained linked together.

Before the links are unchecked

After the links have been unchecked

Other VSTi's will have dfferent sets of rules, however the basic principles will relate. Purity can use 16 instruments at once over a spread of 16 MIDI channels. Go ahead and select sounds for the one through four slots of Purity. These channels represent MIDI channels.

For this tutorial the instruments in the first four MIDI channels of Purity are

1. Piano MIDI channel 1
2. FM - EP MIDI channel 2
3. Vox MIDI channel 3
4. Pad MIDI channel 4

We will create splits in the signal chain to match these sounds and MIDI channels.

Go back to the Signal Chain and add three "Empty Signal Chains". Refer to the instructions and images on the next page.

To add an empty signal chain, click in the first empty signal chain slot. From the menu select [Add Empty Signal Chain]. Add three empty signal chains below "Signal Chain 1".
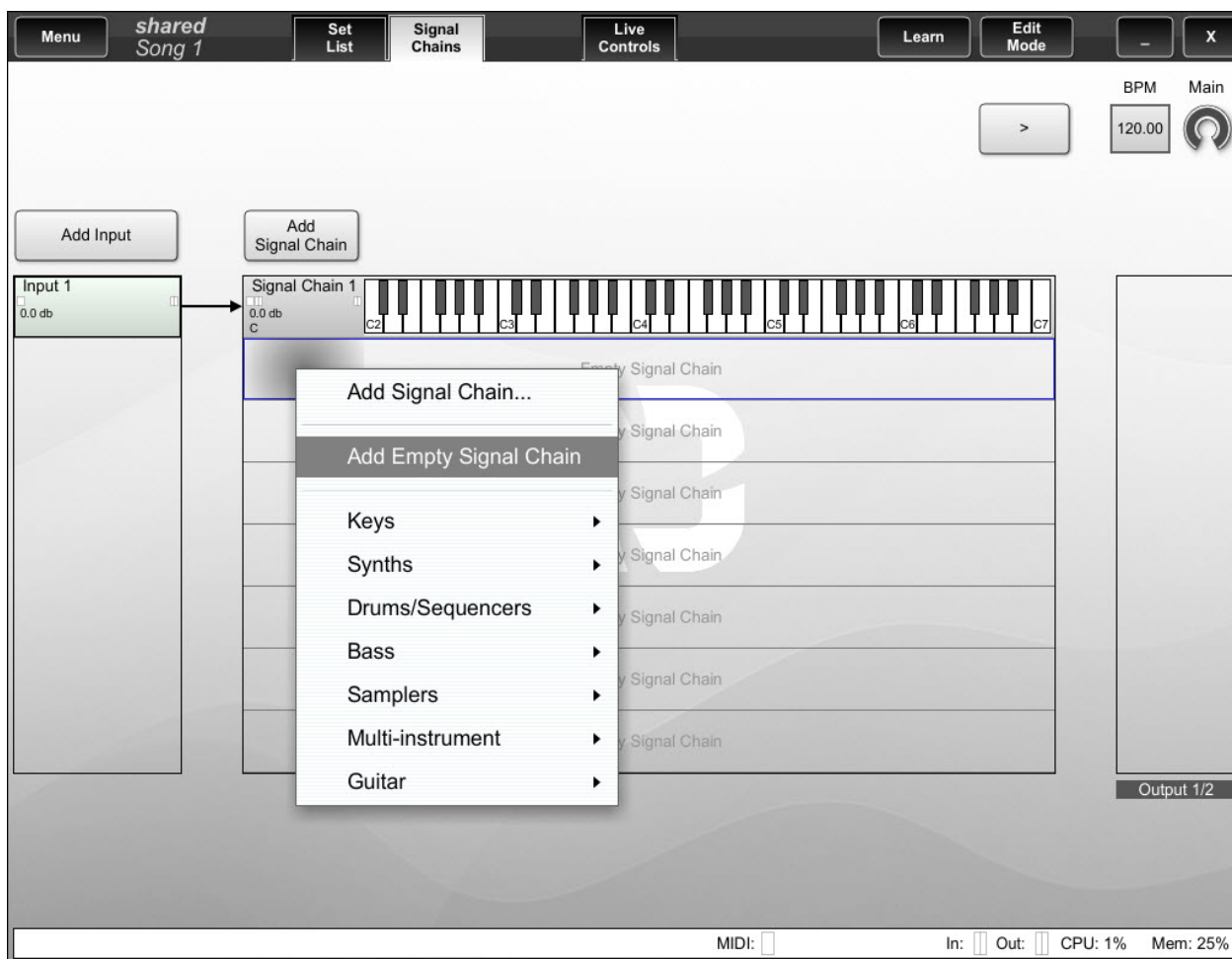
As you can see in the following image, there are three additional signal chains stemming from Signal chain 1.
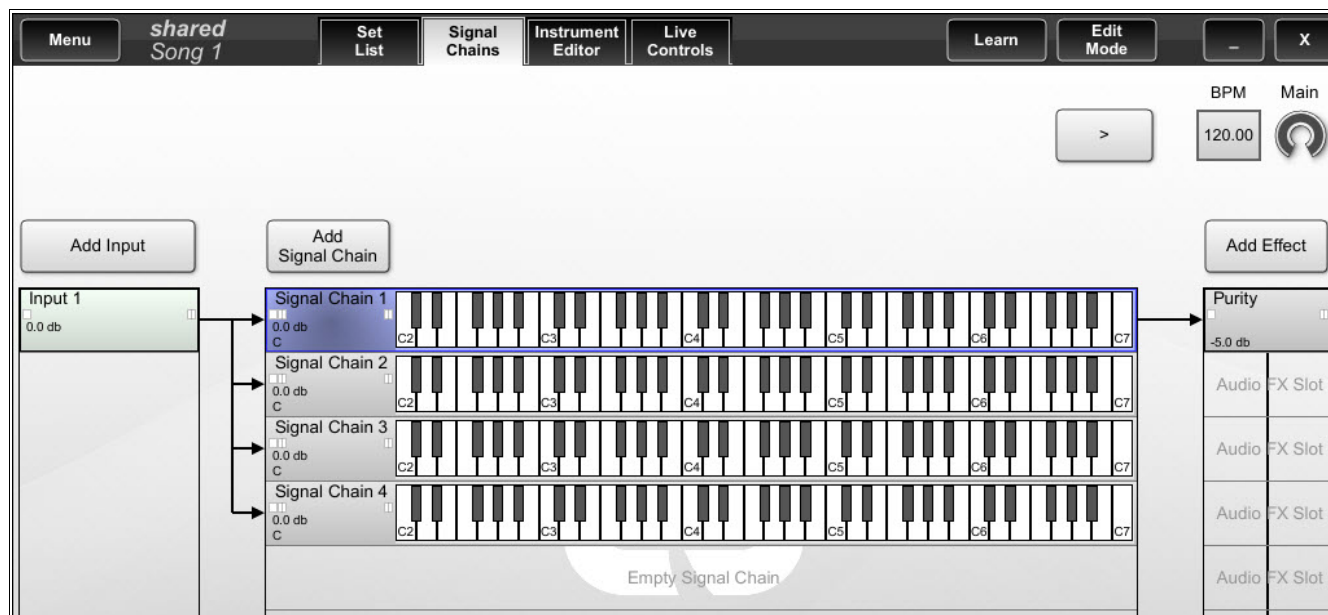
Next, the Signal Chains need to be routed to the proper MIDI channels. And the splits set up for the four chains.

Go ahead and set an array of splits similiar to this. Of course if you are on a NeKo, you will need to make your splits closer together, or just use the transpose buttons to reach those octaves.
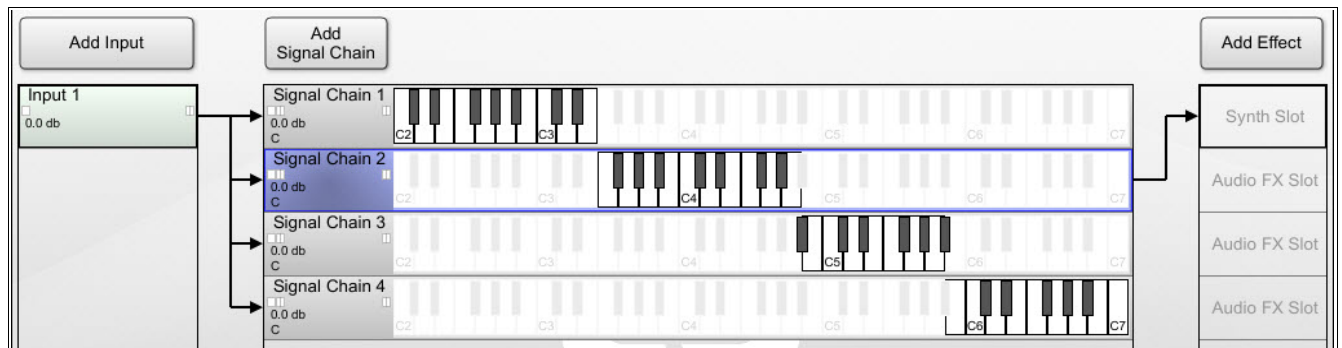
Each split needs to be set to an individual MIDI channel. Signal chains two, three, and four need to be routed to the first signal chain. Since two through four are empty signal chains they need to be routed to Signal Chain 1, this gives them access to the sounds in Purity.

Click [Bypass Channel Out] in the lower controls section and set Signal Chain 1 to MIDI out Ch: 1.
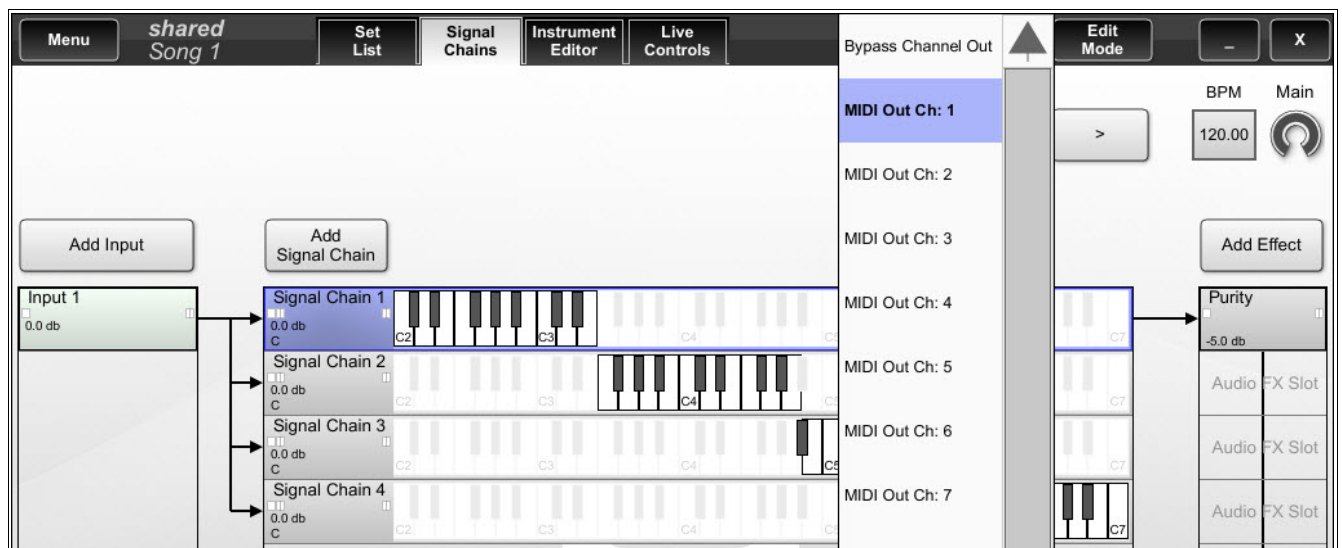
Next, signal chains two, three, and four, need to be routed through Signal Chain 1 which contains the instance of Purity.

Select Signal Chain 2. Click [No External Routing] in the lower controls section and select "Signal Chain 1". And while you are there, go ahead and set the channel out to MIDI channel 2.
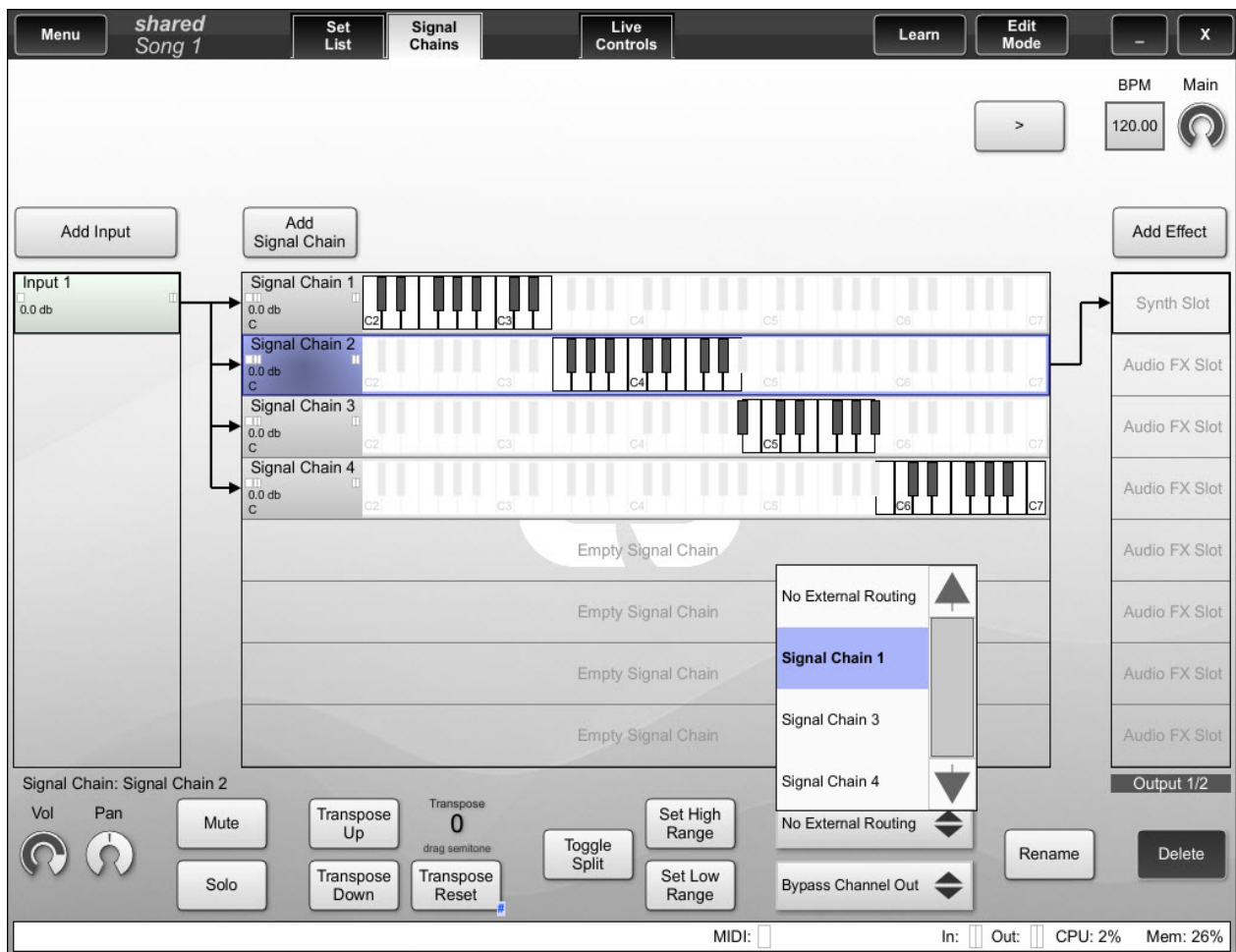
Once the routing has been assigned, you will see that Signal Chain 2 is routed directly through Signal Chain 1.
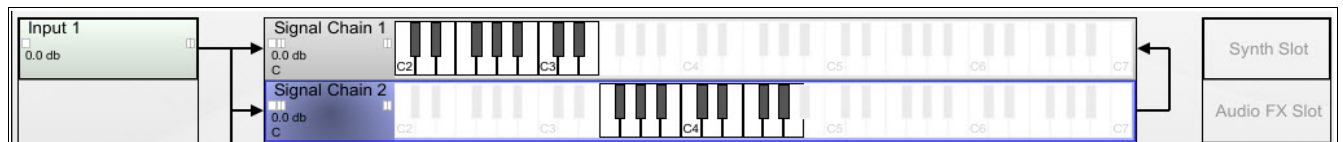
In the lower controls section of Signal Chain 2 you will also see that the routing and MIDI channel out options are properly set.

Go ahead and route signal chains three and four to Signal Chain 1, and MIDI outs to channels three and four respectively.

This will complete this multi-timbral setup, each split should be triggering the patch that you have in the corresponding channel of Purity. Follow the same procedure that was used to set Signal Chain 2.

Signal Chain 3 routed to Signal Chain 1 containing Purity.
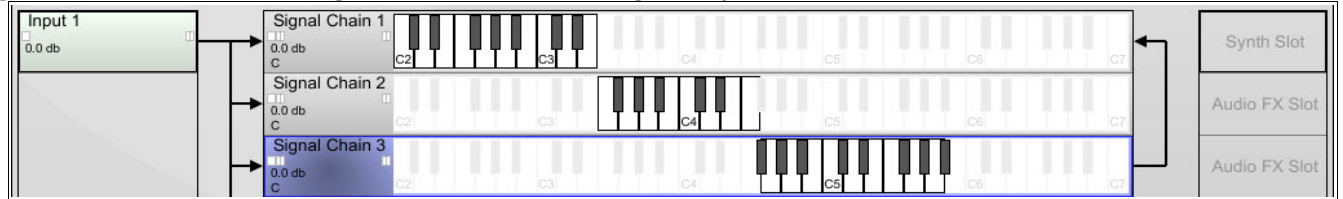
Signal Chain 3 lower controls, MIDI channel out set to channel three.
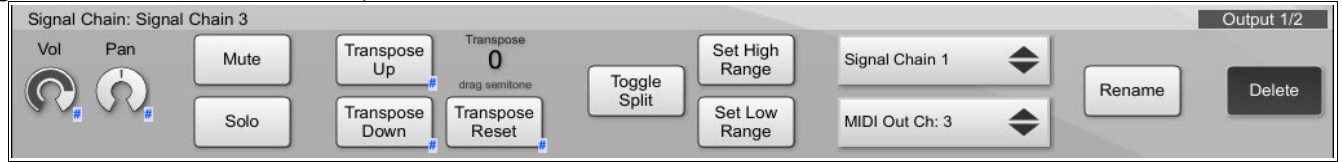
Signal Chain 4 routed to Signal Chain 1 containing Purity.
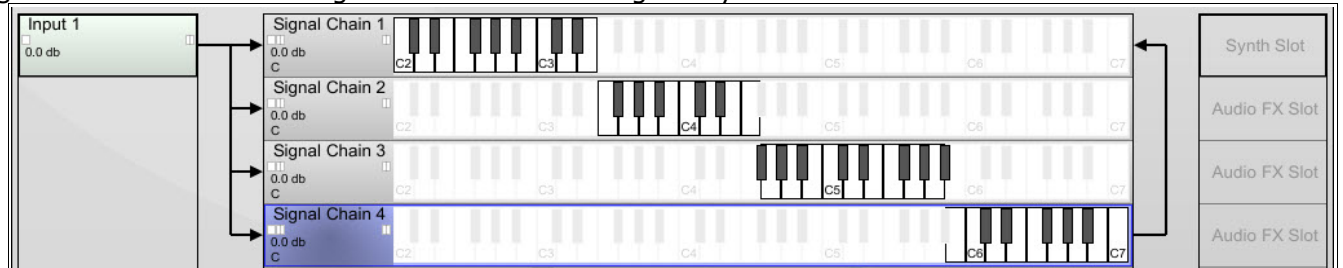
Signal Chain 4 lower controls, MIDI channel out set to channel four.

This will complete this multi-timbral setup, each split should be triggering the patch that you have in the corresponding channel of Purity.

Advanced Multi-timbral Instruments / Signal Chain

Now that you have a good idea of how to use multi-timbral instruments, it is time to learn an advanced way to setup Riff to work with your multi-timbral instruments.

As you can see in the Signal Chain, there are only eight slots . Plus, the signal chains are made for layering sounds, and creating keyboard splits.

Let's say you wanted to use all 16 MIDI channels of a multi-timbral instrument in one Song, as opposed to setting up 16 songs each using a different MIDI channel.

The earlier tutorial explained how to do it that way. However, it is good to know the different ways to setup instruments in Riff.

Setup a new Song, and again, add Purity to the Song.

Remember to unlink the MIDI channels in Purity. Go head and assign sounds to some channels.

Go to the signal chain, select the "Input" for Signal Chain 1. This Input needs to only use MIDI channel 1. The input can be forced to use a particular MIDI channel by pressing the [Input Output] button located in the lower controls section. Do this and the "MIDI Input I/O" option box appears. Set "Force MIDI Output Channel" to "Output Ch 1".
Then press [Set].
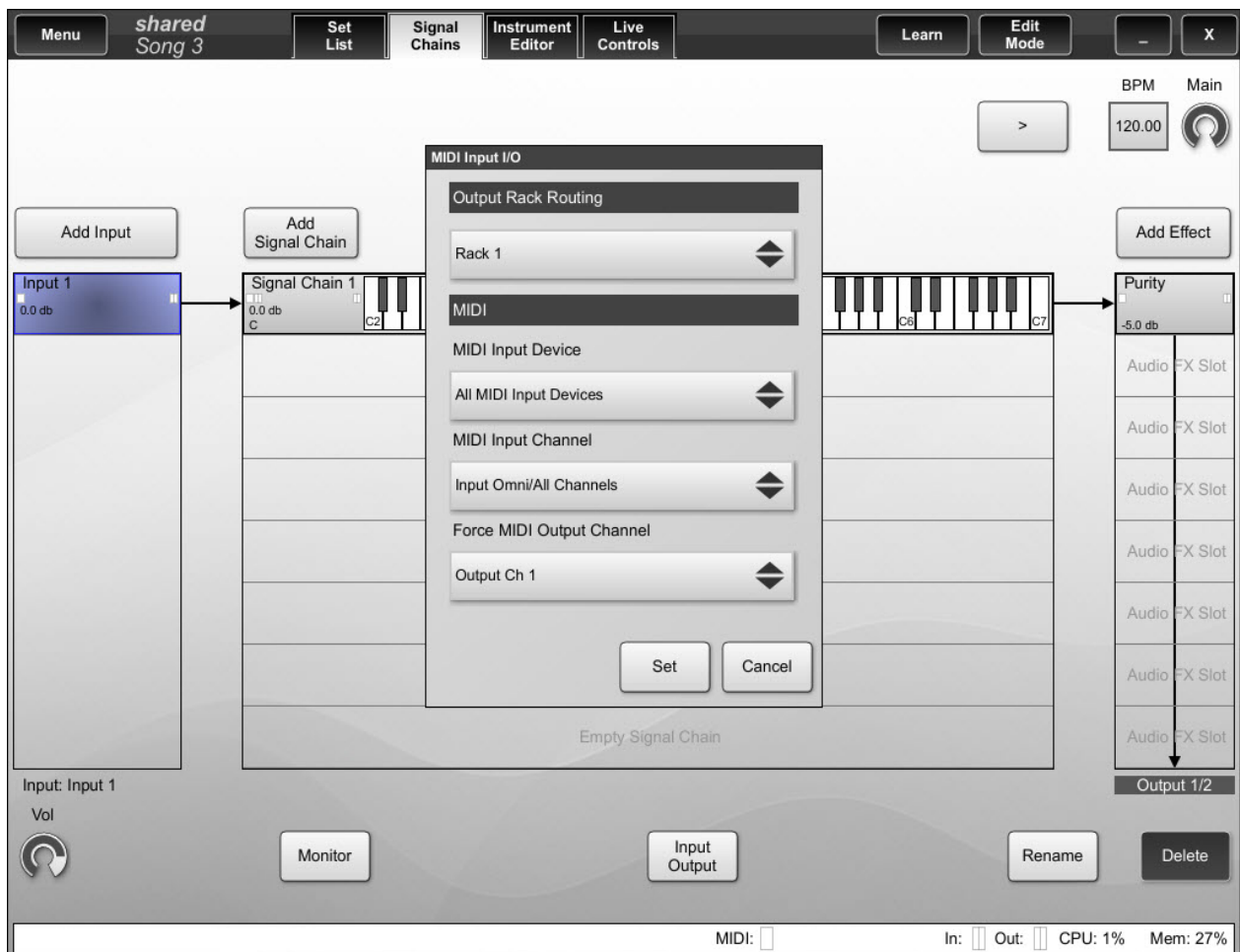
This forces the input to only use MIDI channel 1.

Since you can add virtually unlimted inputs to the Input Column, it is the ideal section to setup a multi-timbral instrument in a song.

Every additional input we add to this song will be setup to use the instance of Purity in the first input slot. Again this will save lots of system resources.

Now it is time to add some inputs to use for accessing the MIDI channels used in the first inputs instance of Purity.

Click the [Add Input] button and select [Add Empty Instrument Input].
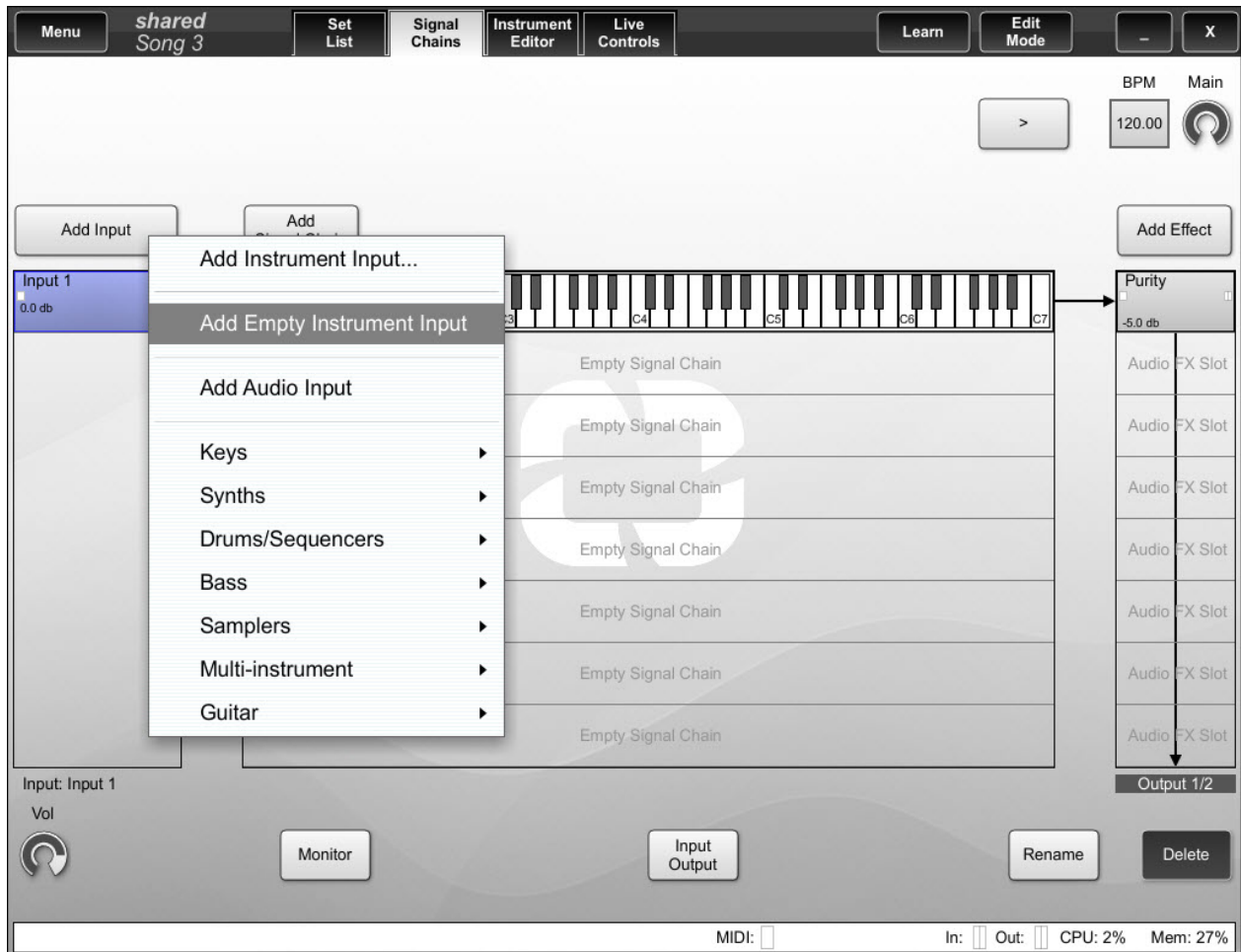
Once that empty input has been added and the Input is selected the Signal chain area remains empty. That is ok, the next page will show you how to assign the proper options.
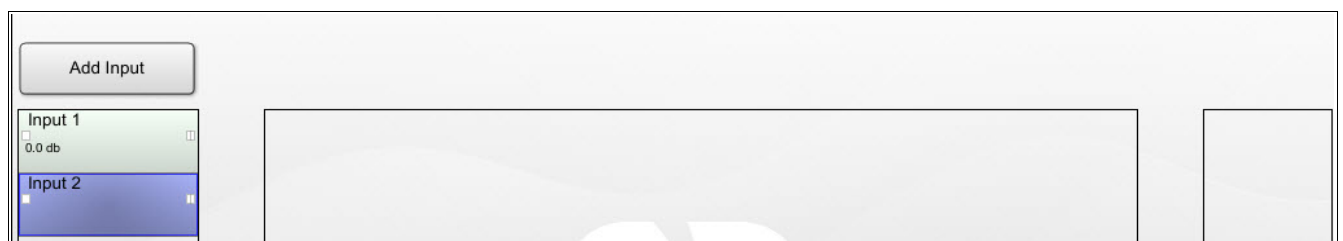
With Input 2 selected, click the [Input Output] button located in the lower controls section. To allow this input to access the MIDI channel 2 of the Purity instance in Input 1, select the following options.

Under "Output Rack Routing", select Rack 1, and under "Force MIDI Output Channel", select "Output Ch 2".

Then press [Set].
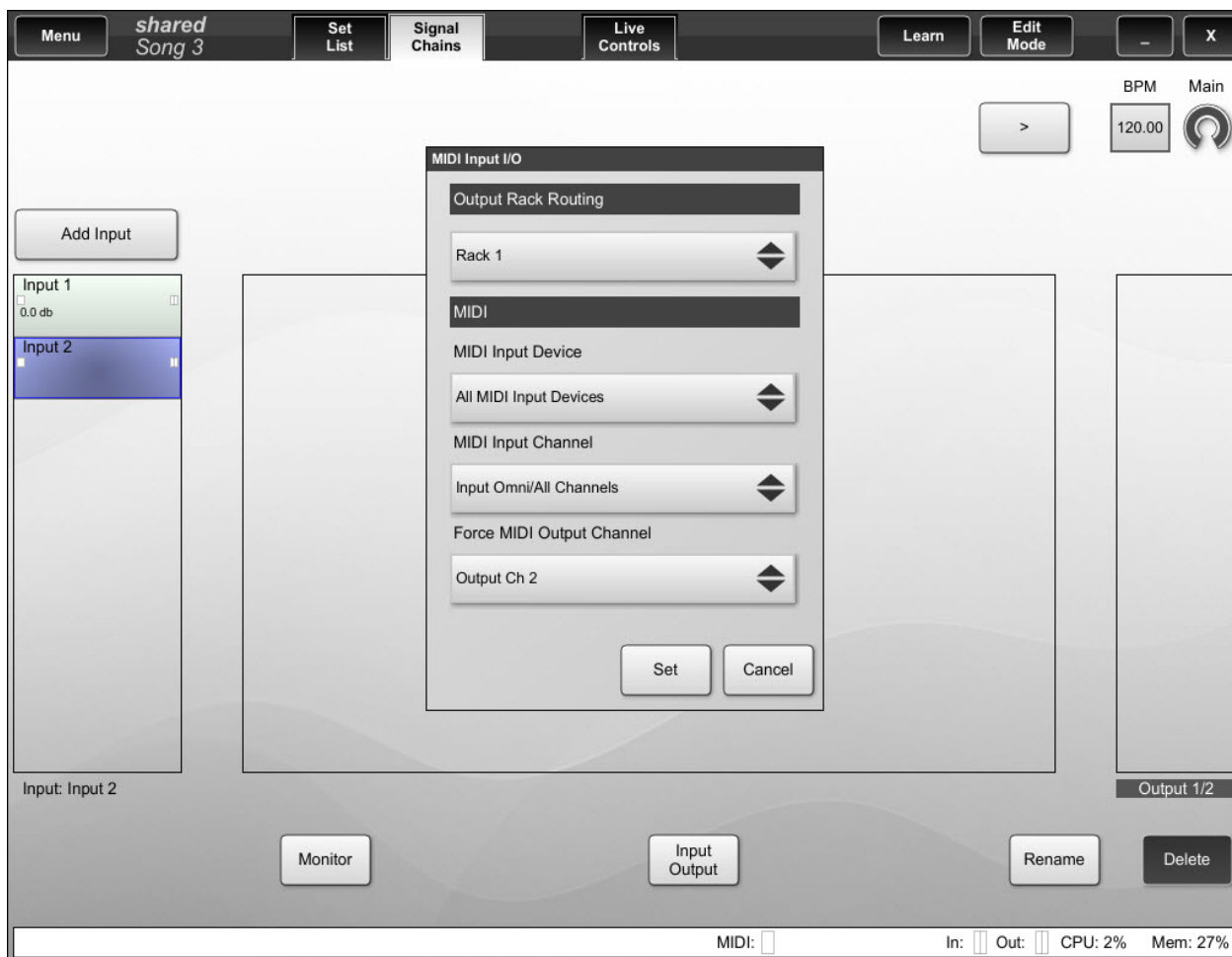
The following image shows that Input 2 is routed to the Signal Chain 1 instance of Purity. Now, whatever sound you add to MIDI channel 2 of Purity will be triggered by Input 2.
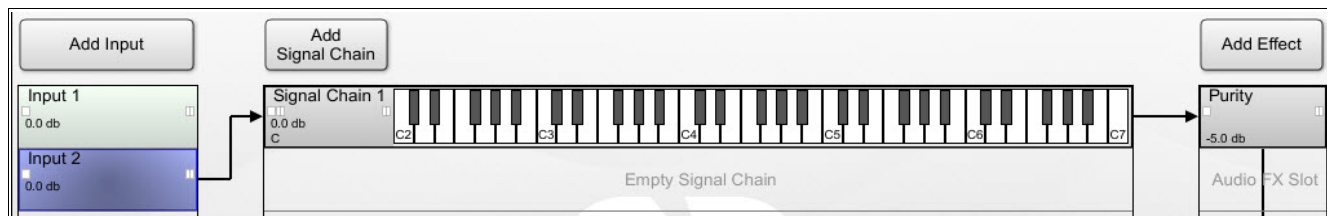
From here you should be able to add more Inputs and experiment with the settings.

MIDI Input I/O Options Window
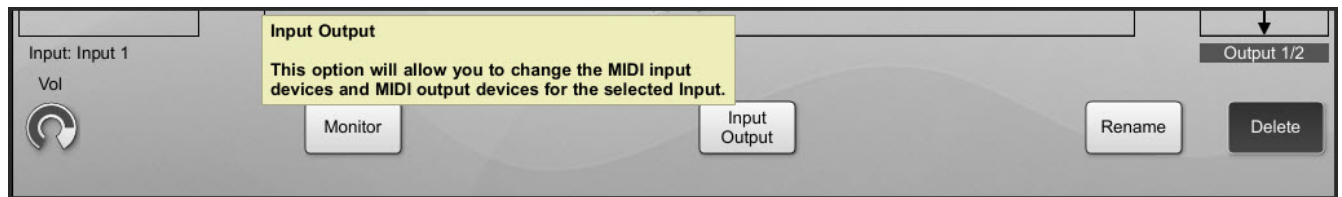
Pressing the [Input Output] button in the lower controls section brings up the "MIDI Input I/O" window.

- _Output Rack Routing_: Allows you to pick which Rack the selected Input should route to.
- _MIDI_: Various options for per Input MIDI routing.

    - *MIDI Input Devices* - Whatever MIDI input devices you enabled in the main MIDI setup options for Riff will be present here. You can also set an MIDI-in for a connected external MIDI controller to play the sound in the selected input.
    - *MIDI Input Channels* - Choose the MIDI Input Channel for the selected Input.
    - *Force MIDI Output Channel* - This option enables the selected input to send MIDI out on a particular MIDI channel.

Using Different Preset Sounds with a Shared Instrument

If you are sharing an instrument over multiple Songs, you will more than likely want to use different presets in each song.

For instance, if you are using the patch "Mellow" from the plug-in Mr. Ray in Song 1, but in song two you also want to have Mr. Ray using a different patch. There is no need to add a brand new instance of Mr. Ray.

This next tutorial will show you how to do this.

First off, select a spot directly beside the first Song on your Setlist and click "Add".

Once you reach the "Sound Browser" click the [Currently Loaded Plugins] tab. Here you will see your list of loaded instruments. Instead of loading a new instance of Mr. Ray, select the currently loaded Mr. Ray and either press the [Add] button or double left-click the instrument. This is also how you share an instrument in Riff.

The next picture shows you what an Instrument looks like after "Shared" has been enabled. The Mr Ray icon in the Stream Processor is now yellow. This represents an instrument is shared.
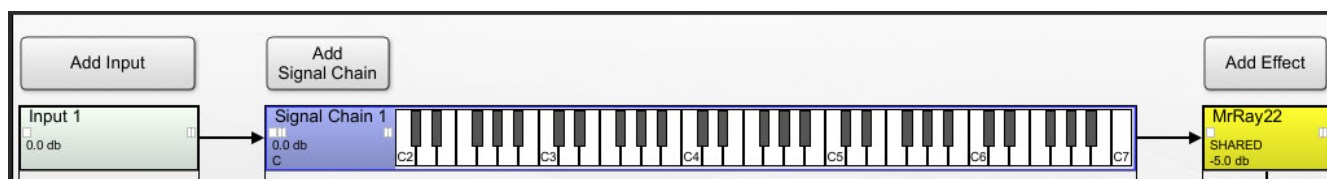
Go ahead and jump over to the Instrument Editor of this song and set Mr. Ray to the patch "Mellow". Next, press [Make Default] in the lower controls section of the Instrument Editor.
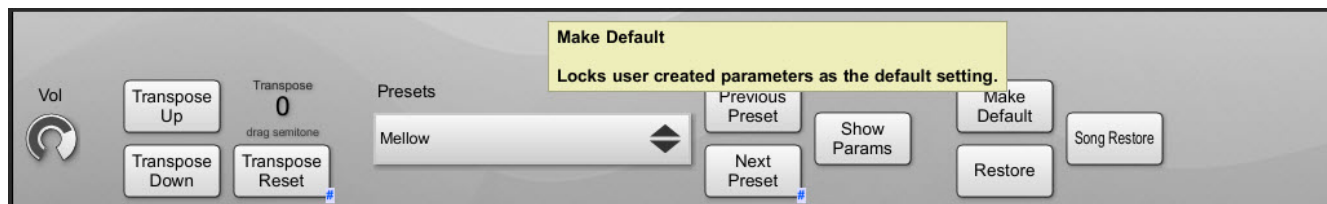
Then press the Song Restore button.
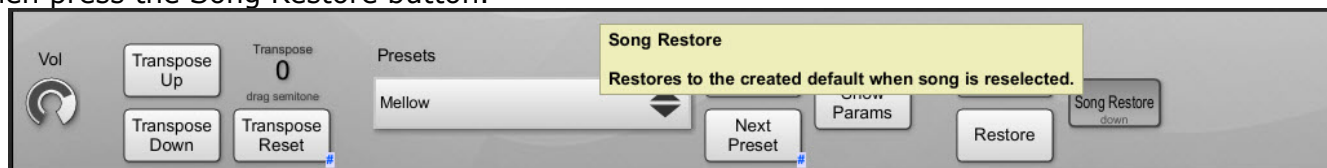
Doing this locks Song 1 to the preset Mellow.

Now add a second Song to the Setlist, but for this song instead of adding a new instance of Mr. Ray, select "ADD" on the Setlist, and go to the [CUrrently Loaded Instruments] tab and select "*MrRay22*".

Hit [Add].
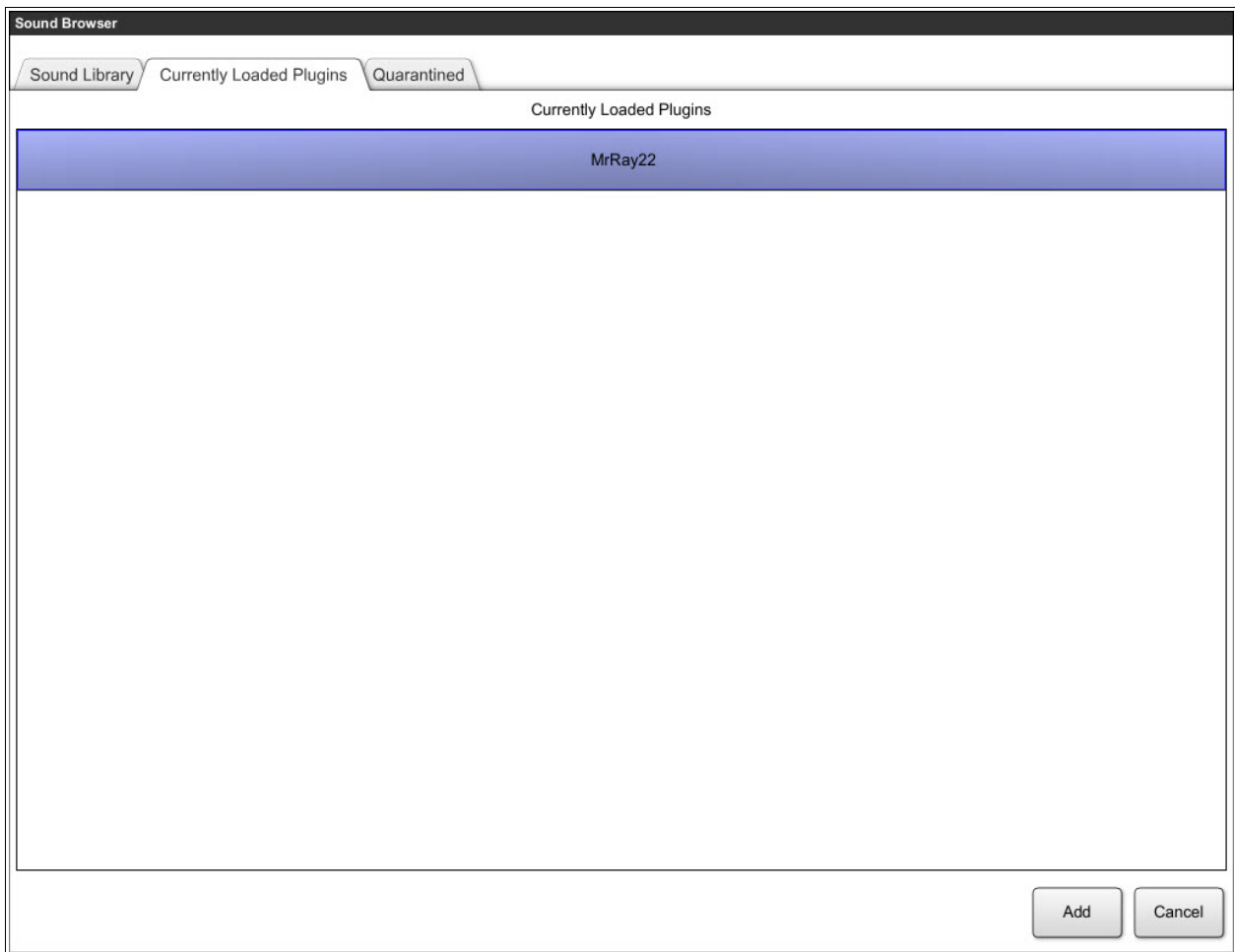
Now, go the [Instrument Editor] tab of this new Song, and select a new preset patch. Then hit the [Make Default] button. After you hit the [Make Default] press the [Song Restore] button in this song.

That is all you have to do to have multiple Songs share the same instrument, while still being able to have a different sound from that instrument in each Song.

Here is a quick recap of this section.

1. Create a Song with any VSTi.
2. Go into the Instrument Editor and find a patch you like, then hit [Make default], then hit [Song restore].
3. Add a new Song, once you reach the "Sound Browser" click the [Currently Loaded Plugins] tab. Here you will see your list of loaded instruments. Instead of loading a new instance of an instrument, select the instrument that is to be shared, and either press the [Add] button or double left-click the instrument.
4. Go into the Instrument Editor of the new Song, find a new preset, then hit the [Make Default] button. After you hit the [Make Default] press the [Song Restore] button in this song.
5. Now you can change songs while getting different sounds from the same plug-in.

5d - Using Bump MP, the Mix Edit Panel with Riff and Guru

The NeKo LX5 offers an awesome new drum machine style rhythm tool. Using Bump MP, the Mix Edit Panel with Riff and Guru you will be able to create rhythms like never before. The following sections shows what controls what.

Bump MP Assignments
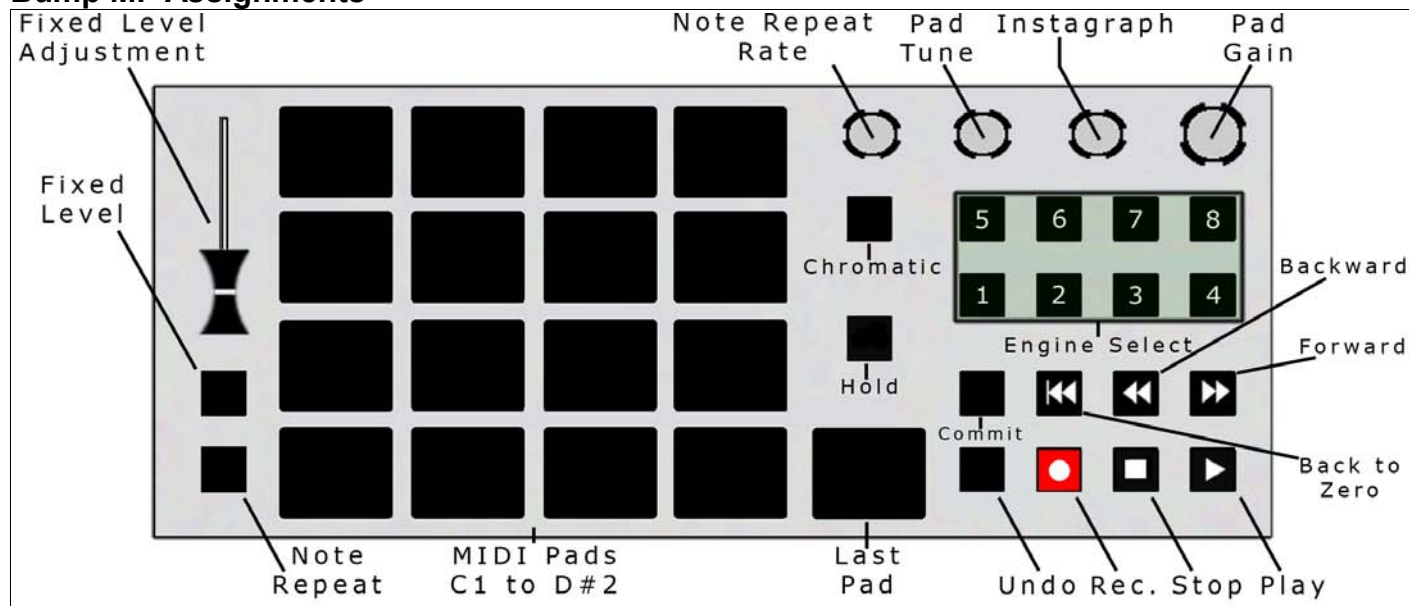
Mix Edit Panel Assignments
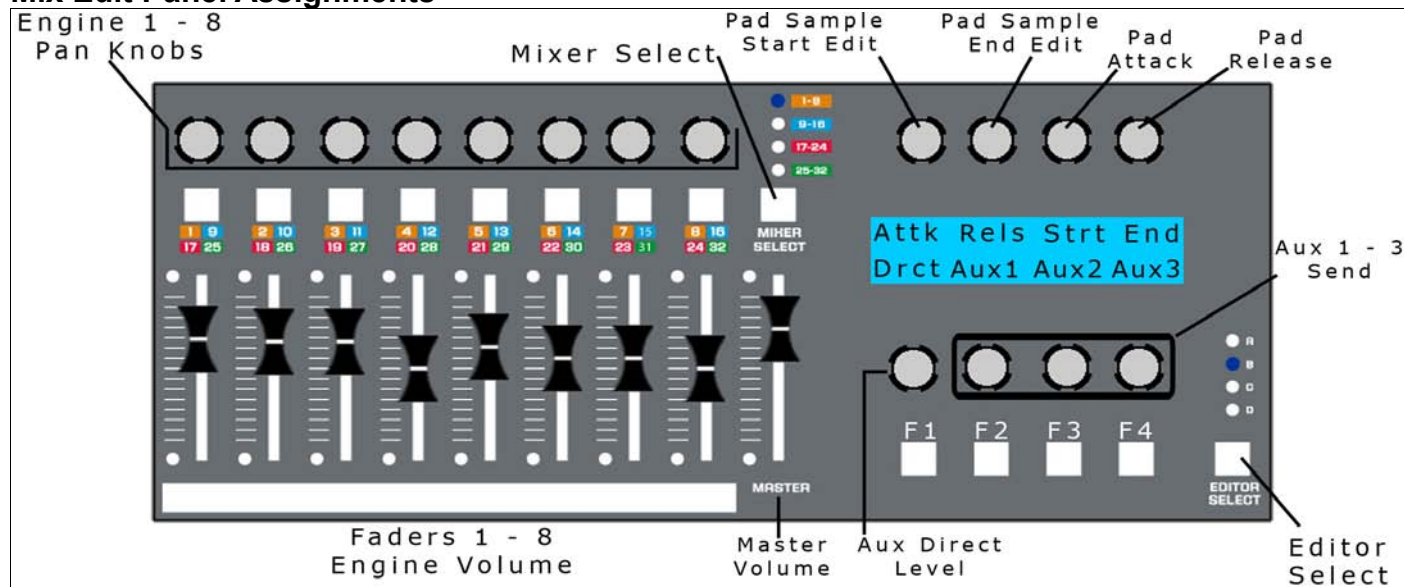
Bank B of the Mix/Edit panel is the default selection for BUMP MP inside of Riff and Guru. Please refer to the main Guru PDF document for complete instructions for this application. You can also get more information by visiting the FXpansion forum for Guru.
(http://www.fxpansion.com/forum/viewforum.php?f=10)

Importing the Bump MP/Guru Song Template

Since the pads, knobs, buttons and faders have to be pre-assigned to particular MIDI assignments, it is necessary to use the "Song Import" feature to load a song template.

This ensures everything is set to go. We have provided you with a blank Guru template which contains everything pre assigned. Aways be careful not to save over any of the default templates.

Go to Menu>Import Song
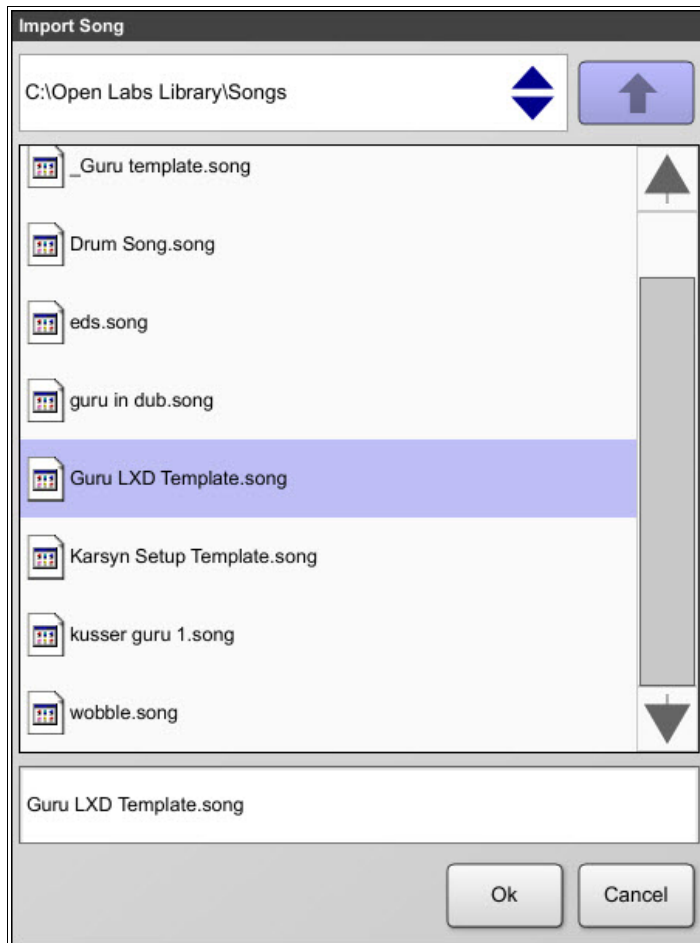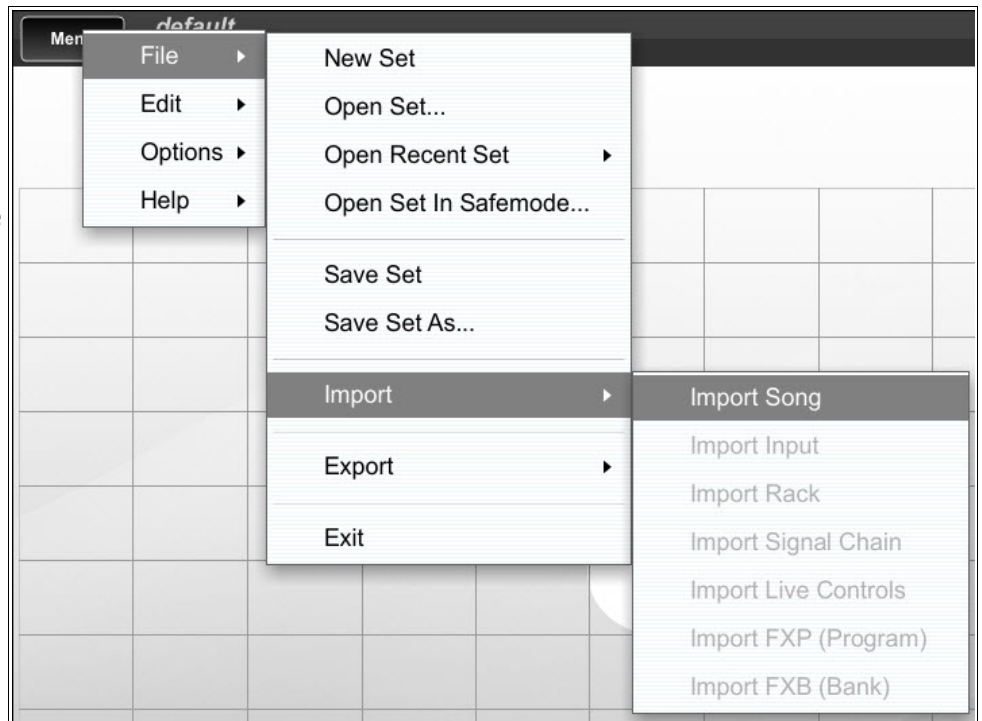
Then select "Guru LX5 Template.song" and hit [OK].

This will import a Song with all the required components to use the Drum pads.

You can use Guru to record all your beats, or sequence samples. If you want to play other sounds while beats are playing back from Guru, it is suggested to use the [Play] button in Riff. Doing this ensures that all tempos are locked together. Changing the BPM in Riff also changes the tempo in Guru.

There are some technical things you should be aware of with this setup. Please read on for an explanation why we suggest you use Bump MP this way.

The following image shows what the Bump MP/Guru template song looks like in the Signal Chain. There are two inputs from Bump MP feeding the instance of Guru.
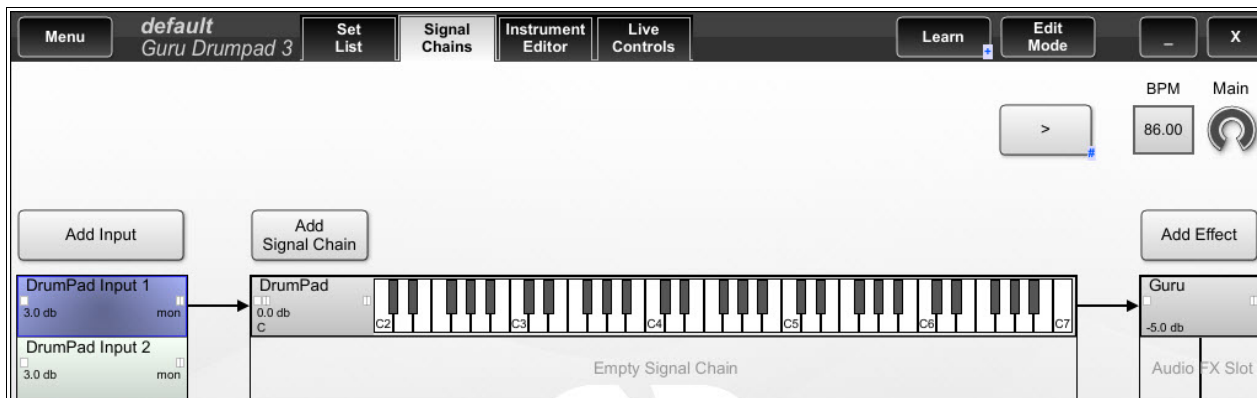
The first Input uses the following Input/Output options.
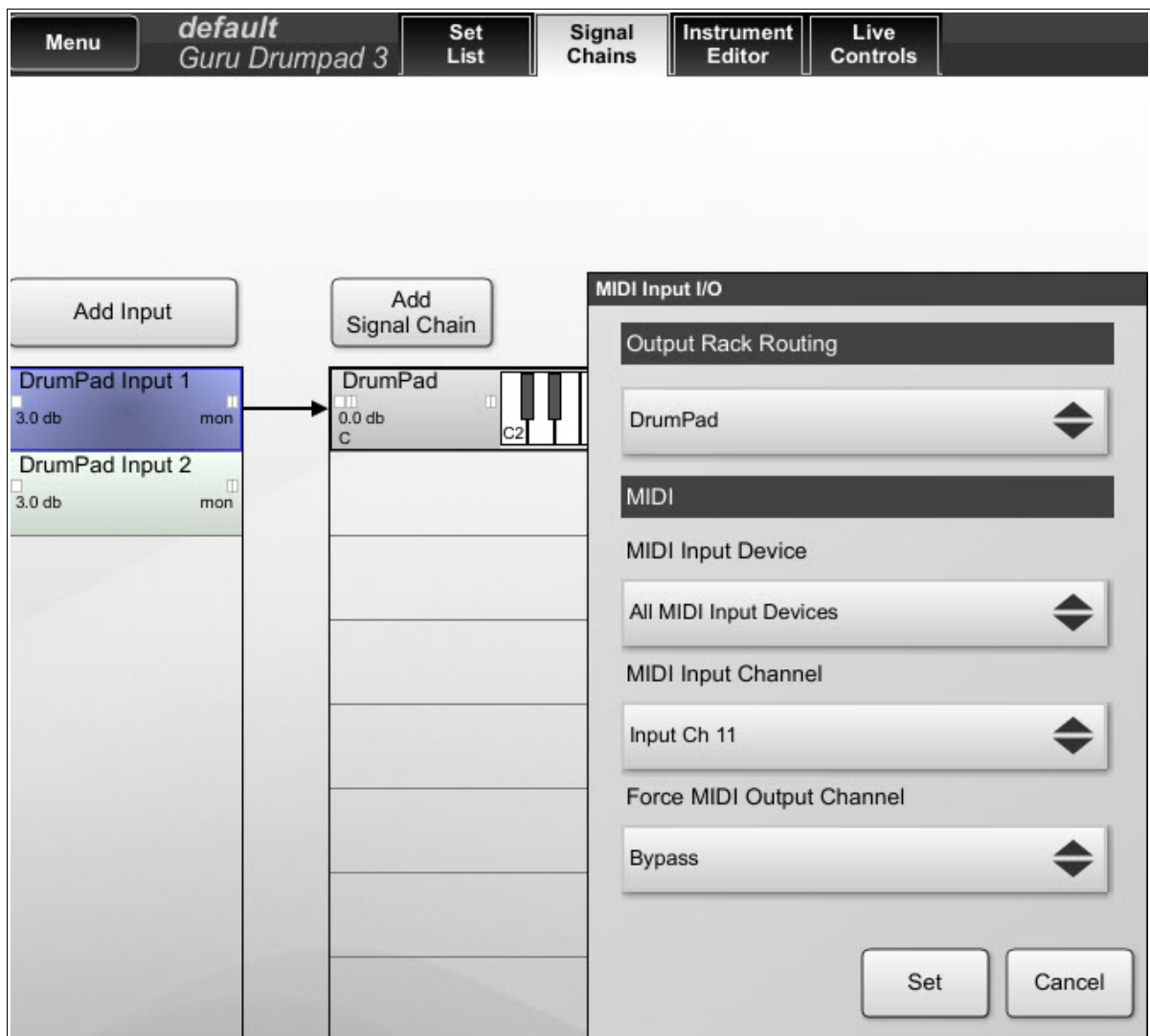
This first Input is what enables the Bump MP drum pads to "talk" to Riff.
If you look at the "MIDI Input Channel" for this Input, you will see that Input Ch 11 is selected.
This isolates the drum pads from receiving MIDI from any other channel or device not using MIDI channel 11.

The second Input uses the following Input/Output options.
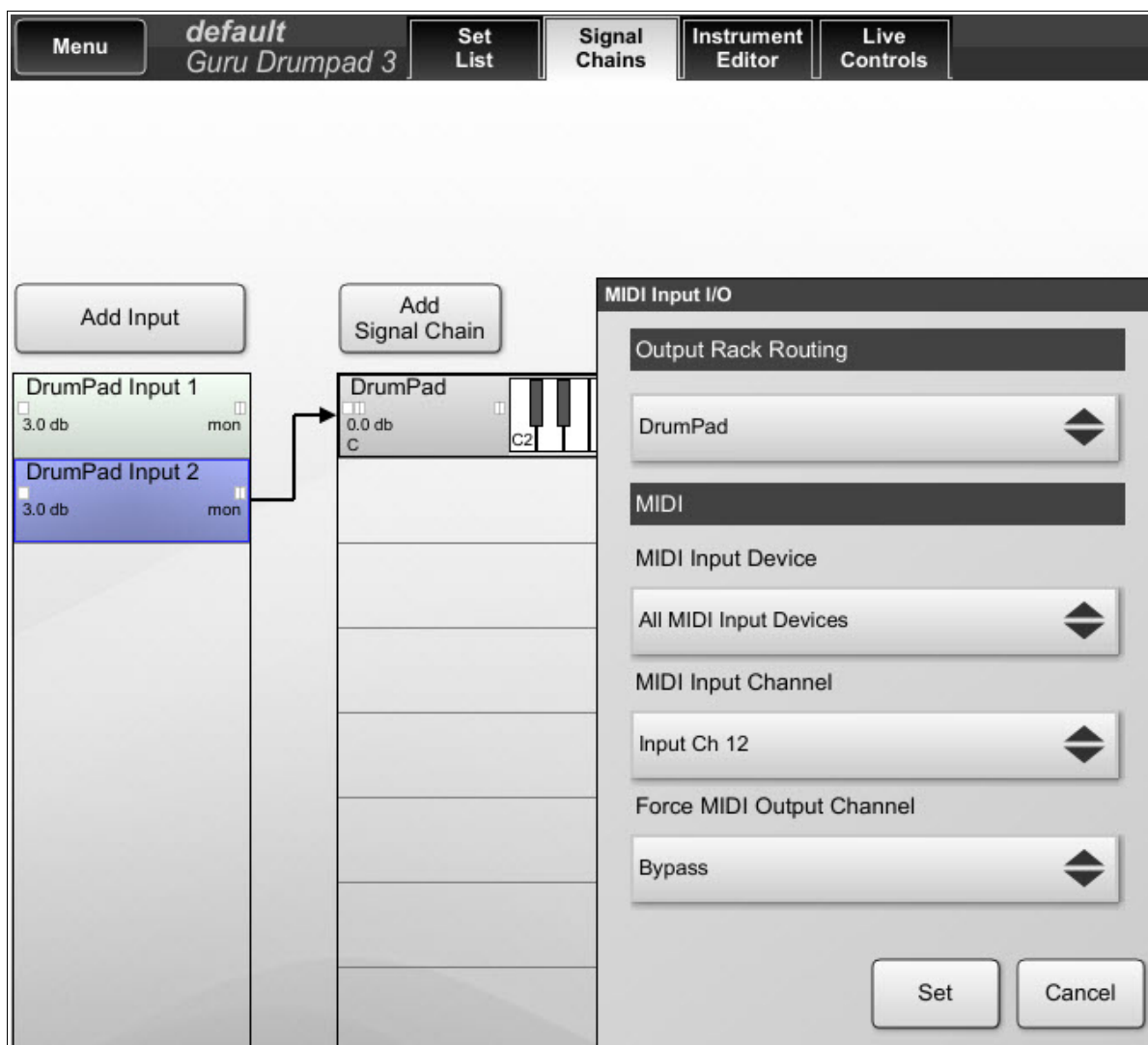
This second Input is what enables various Bump MP control buttons, knobs and the "last pad" drum pad to "talk" to Riff.

If you look at the "MIDI Input Channel" for this Input, you will see that Input Ch 12 is selected. This isolates the control buttons and knobs from receiving MIDI from any other channel or device not using MIDI channel 12.

GURU Quickstart: Engines, Pads, Patterns and Graphs

This section will introduce you to the application GURU, it is not intended to replace the GURU manual. After reading this section, please refer to the complete GURU manual which is located on your NeKo LX5's hard drive.

These concepts are crucial to the way that GURU works, so it's very useful to read through the following descriptions.

Engines
GURU is made up of eight 'Engines'. Each of these Engines contains 16 Pads. Although these Pads can be sequenced from your host sequencer using MIDI notes, they can also be controlled by each Engine's advanced step sequencer system. There are sequencers for Pads (the Pattern view) and for modulating certain sound parameters (the Graph view). An Engine is essentially an independent entity with its own MIDI channel (they respond to channels 1-8), although the tempo of all Engines is locked to multiples of Engine 1's tempo.

Each Engine also has 3 Aux effects and an Insert effect. There is also a Master Insert effect which affects the entire Master output.

Pads
The 16 Pads inside each of GURU's Engines are categorized into Kicks, Snares, Hihats and Percussion, with 4 Pads assigned to each type. This is central to SmartSlicing: GURU's intuitive new approach to loop-slicing.

Each Pad is a sophisticated sampler with a substantial array of parameters that can be adjusted in the Pad Edit view, which is a tweaker's paradise. You can layer (either stacked or velocity-layered with crossfades) up to 8 samples on a single Pad, adjust start/end points, gain, pan, pitch and filtering, add one of the built-in effects or adjust send levels to any of the 3 Engine Aux effects. There are also 2 envelopes to play with in the Pad Edit view: one for amplitude and one for filter cutoff, pitch and certain effects destinations.

The Pads are mapped to MIDI notes C1 to D#2 by default.

Patterns
The Pattern view is for step-sequencing Pads. The sequencer can have up to 16 pages, each with up to 32 steps, giving a total of up to 512 steps. Each sequence is called a Pattern: each Engine in GURU has 24 Patterns, assigned to MIDI keys from C3 to B4. Click on the Pattern keys, or hit the corresponding MIDI key, to access any of the 24 Patterns for each Engine.

While all the Engines are tempo-synchronized, Engines 2-8 have a tempo multiplier setting which adjusts the tempo for each Engine relative to the main tempo (which is used for Engine 1). By using multiple Engines with different tempo multipliers, you can create complex multi-layered polyrhythms with ease.

GURU contains the ability to intuitively record Patterns, so you can use it as a complete workstation environment. This can be a breath of fresh air if you find yourself constrained by fiddly audio/MIDI sequencers, which have too many possibilities that sometimes get in the way of creativity. GURU even provides a Scene view, where you can store 'snapshots' of the state of all 8 Engines together, and change between them by using MIDI note input.

Slicer

We've given GURU's slicer a major overhaul – it is now much more accurate, and has a 'Sensitivity' control allowing you to adjust how it responds to possible hit points in your loops. In addition, its slicing and score extraction process is now velocity-aware - slices and scores are now generated in such a way that hit volumes are consistent when using the sounds from one loop with the score from another, or the score from a loop with a kit, or the slices from a loop with a pattern.

As well as the 'Sensitivity' control, there is also an 'Accuracy' control which specifies how much CPU time GURU should give to analyzing the slice points. Higher accuracy means more precise, but slower, slicing.

The Slicer can now be toggled between SINGLE mode, in which one slice is loaded per pad, and FULL mode, where up to 8 slices are loaded per pad, using the Layers. This allows Guru to fit long loops (up to 128 slices) in a single engine; it also supports a Linear Scoring mode where instead of smart-slicing by drum type, the slices are simply mapped to pads 1..16 in the order they occur in the loop file, much like a conventional slicer.

When slicing loops and generating Scores, the slicer is now velocity aware – each score note is assigned a velocity based on the loudness of the slice from which it was generated. This gives much more useful playback when replacing the slices for a given score with a pre-made kit.
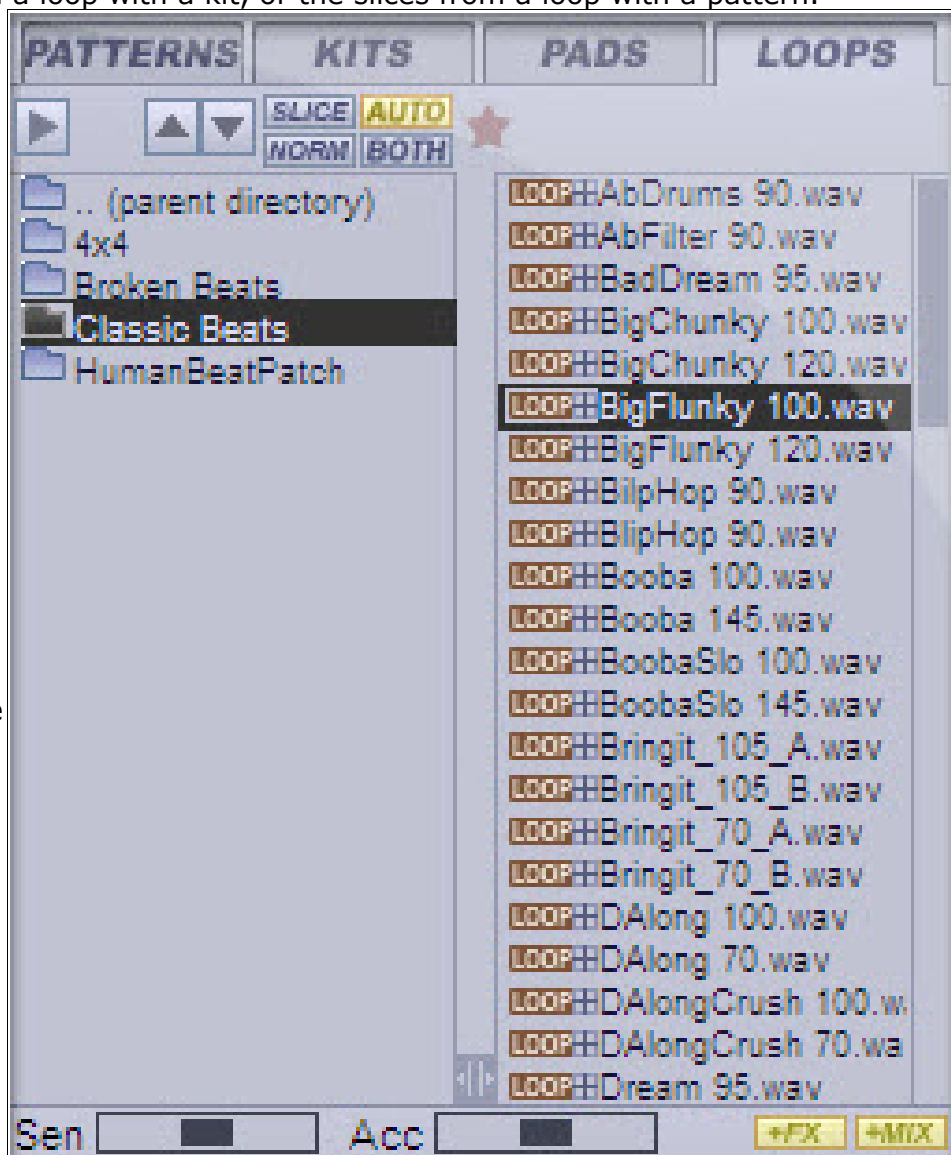
"Equal 16ths" has now been replaced by a "CHOP" mode controlled by the sensitivity slider, allowing you to set a chop length from 1/4 note down to 64th note. Hold SHIFT to set the sensitivity control to non-power-of-2 values in this mode (by default it snaps 4, 8, 16, 32, 64).

Overview of the GURU Interface

1. Guru LCD
2. GURU Toolbar
3. Pattern Keys
4. Browser
5. MIDI Pads
6. Sequence
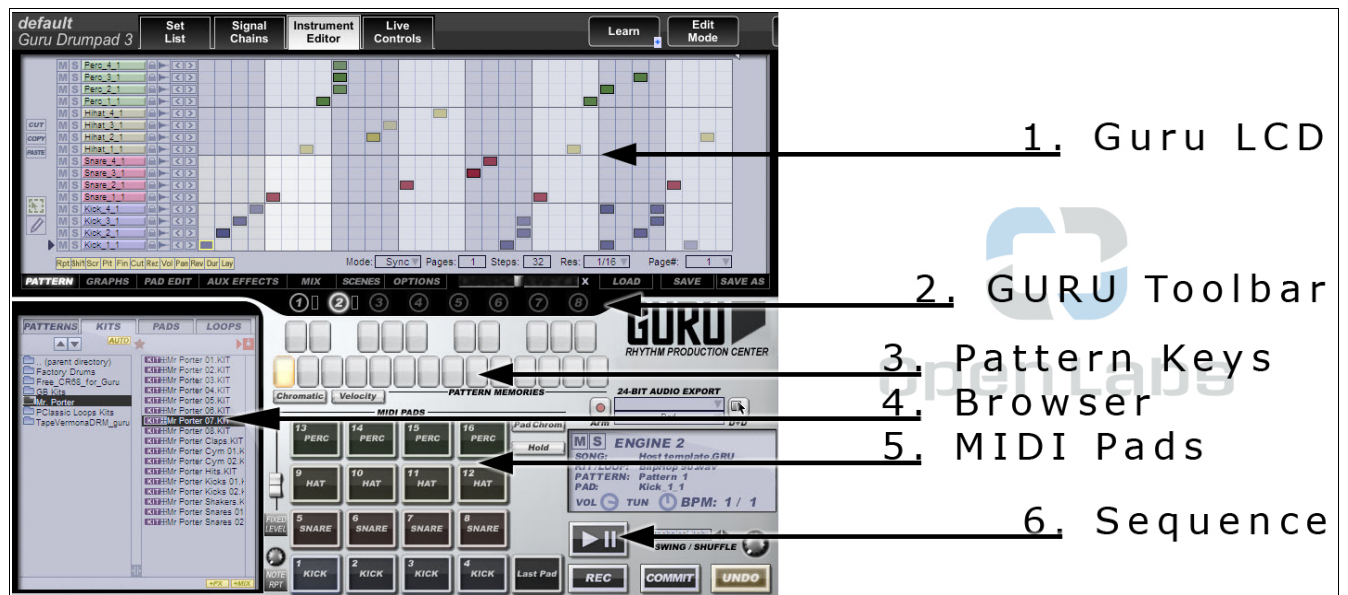
GURU LCD

The LCD is the main edit area in GURU. It can be in any of the following view modes:

- Pattern view
- Graphs view
- Pad Edit view
- Aux Effects view
- Mix view
- Scenes view
- Options panel

Each of these view modes have a corresponding button in the GURU toolbar.

GURU Toolbar

The toolbar not only offers access to the different LCD view modes, but also to the Engine selectors and activity display. The Toolbar houses the Load/Save Bundle buttons. See chapters 8 & 11 for details on these features.
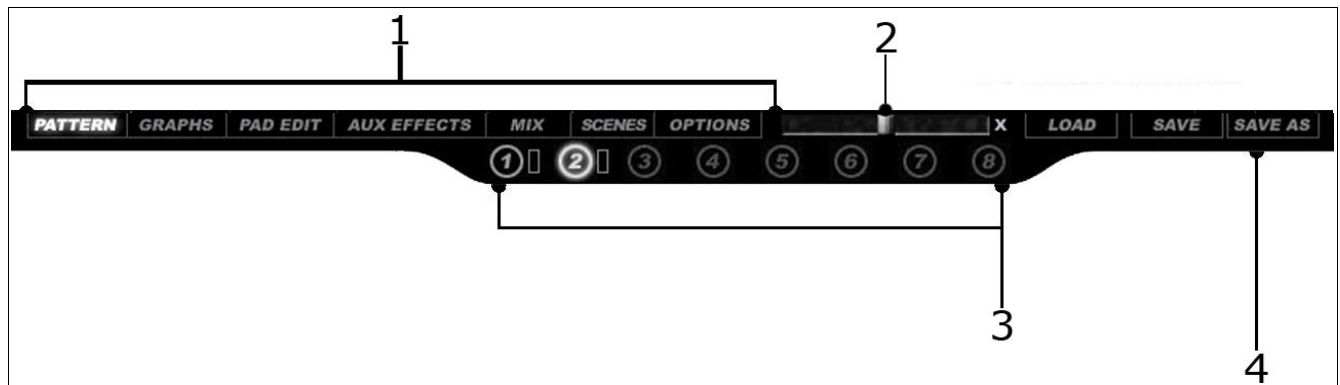
1. LCD view mode selectors

2. Randomizer
   - A new creative inspiration factory, the randomize slider can operate on any of GURU's main screens – sequence, graphs, pad edit, effects, mixer – and allows you to apply a controllable amount of randomization to either the current pad or various combinations. Click on the randomize slider to generate a new set of 'seed' values, then drag to the left or right to apply them progressively to your patch. Hold down ALT or SHIFT while dragging the randomize slider to apply the process over a wider area – if you don't like what you hear, just hit the [X] button next to the Randomizer fader.

3. Engine selectors & activity display

4. Load/Save Bundle Buttons

Browser
This is where you load sounds and Patterns into GURU.

The Browser is a very important part of Guru, as it is central to getting sounds into it! You will see four tabs in the Browser: Patterns, Kits, Hit and Loops. Before we examine them, it's essential to explain how the Browser works, and to explain its preview functionality.

The Guru browser is a dual-pane browser: the left pane is for folders, and the right pane is for files – Loops, Hits, Kits and Patterns. You can make either pane wider by clicking and dragging the button at the bottom of the divider. It's very easy to navigate around drives and folders… simply
click on any folder or drive name to explore it. When you are in a folder, the parent drive/folder will appear at the top of the folder list. Again, simply click on the name to go up a folder level.

Auto mode
You will notice that all tabs of the Browser have the [Auto] button. Auto mode allows 'preview in context': the elements which are selected in the Browser play in place of the elements you
are replacing which are already loaded into Guru, while unaffected parts play as normal. Thus you can hear what the file you're thinking of loading onto Pad(s), Pattern(s) or an Engine
will sound like within the context of your current Guru song. When the [Auto] button is activated in any tab of the Browser, any of the browsable elements within it can be auditioned in context before loading them. If Guru is not playing when you click on a previewable file, it will start playing1, and you will be able to hear the new element in context. You can then click the button in order to load it, or preview another.

See Chapter 2 from the main GURU manual for and in-depth look at the Browser.
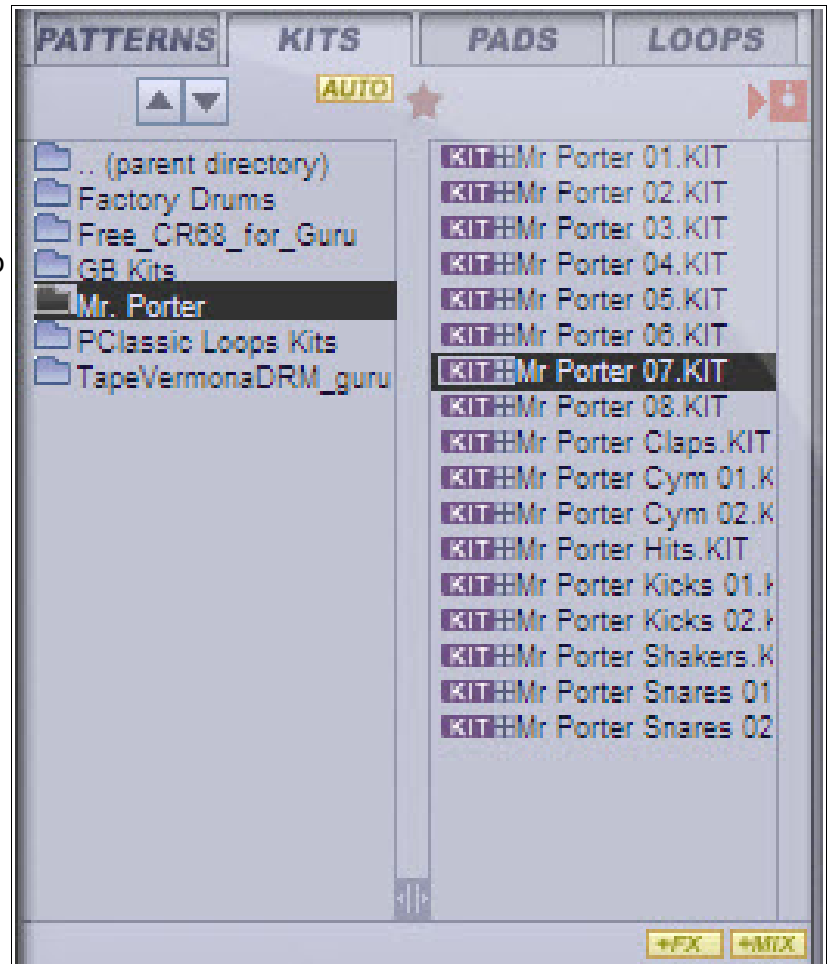
MIDI Pads

There are 16 MIDI Pads, with 4 assigned to each drum category (kicks, snares, hihats and percussion). They can be played by clicking them on-screen or by hitting their corresponding MIDI notes (by default, C1 to D#2).

The Pads light up blue (kicks), red (snares), yellow (hihats) and green (percussion hits) in response to being played.

Pads are also selected for editing by clicking the pad and selecting the [Edit] button in the toolbar. This provides quick access to the Pad Edit view.

See chapter 3 of the GURU manual for more details on Pads and the Pad Edit view.

Pattern Keys

(Above image) Pattern keys MIDI notes C# to B4.

The Pattern keys are a way of selecting Patterns for editing when in the Pattern view, and also for playing them. They are mapped to MIDI notes C3 to B4.

See chapters 4 & 5 of the GURU manual for more details on Patterns.

Sequencer Master

The Sequencer Master section houses a convenient display for the current Engine,song,   Pattern and Pad, as well as global volume, kit/loop, tuning, mute, tempo and Groove controls for the current Engine.

It also contains the Undo button, and the Playback and Recording controls.

Control Conventions and Keyboard Shortcuts

The UNDO button
GURU provides a one-level Undo function when editing Patterns. When there is something to Undo, you'll see the Undo button highlighted. Any operation which involves notes in Patterns can be undone –even loading Patterns from the Browser.

The Undo button is also used in Record mode, in order to Undo the last take. When in Record mode, this button can be controlled by a MIDI note. Keyboard shortcuts

GURU is quite heavily dependent on keyboard shortcuts, in order to facilitate quick edits and fast work flow. One very important shortcut to remember is [CTRL]-click, which is used for numerous frequently used functions.

- [CTRL]-click in GURU is the same as the right mouse button.

  It is also worth remembering that [ALT] is a key modifier which results in modifying all similar parameters. This depends in many cases on what is being clicked. Please see section 11:2 for a full list of GURU's keyboard shortcuts.

Loading and Saving in GURU

Load/Save with Riff
When using GURU as a plugin, its settings will be saved with the host project file. This involves saving all Engines, Patterns and Pad settings, with references to the samples used.

Load/Save a Bundle file
GURU can save the entire contents of the Engine to a GURU Bundle (.**GRU** files) with the use of the Save button on the toolbar. (Upper right area of this interface image)

This is effectively like saving your host project, except all samples are saved inside the file. These Bundles are recalled by using the Load button on the toolbar.

This makes it easy to share GURU setups and songs.

Also, you can use Menu>File>Save Set As.. to just save the current array in Riff.

If this is a very complex array, it would be a good idea to save it both ways, just to be safe.
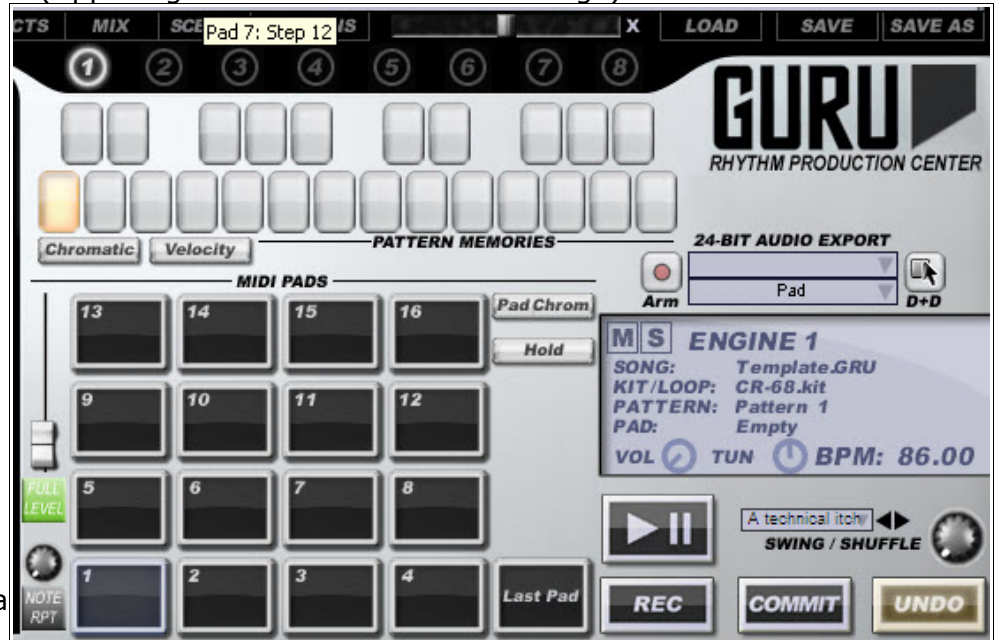
Load/Save Kits
The Browser allows you to save Kits (.KIT files) – the entire content of an Engine, minus the Patterns:

- the Pads (including their Pad Edit settings, effects and Aux sends)
- the Engine's Aux FX
- the Engine insert effect as deployed in the Mix view

Please refer to the Guru manual for more details.

Load/Save Pattern/Pattern Set
The Browser also allows you to save the current Pattern (a .**G01** file), or a group of all the current Engine's Patterns into a Pattern Set (a .**G24** file). See the Guru manual for more details.

Creating Beats with GURU: The Basics

Recording Patterns

GURU offers a very intuitive means of recording Patterns using live input. You can record into GURU with the following methods:
- Clicking the on-screen Pads with the mouse.
- Playing an external MIDI controller (for example, a keyboard or set of drumPads).

Record-arming

After loading an Engine with sounds, select the Pattern onto which you wish to Record. Then, click the [Record] button on the Sequencer Master section of the GURU interface. The display will inform you that GURU is 'armed' for Recording.

The display also shows two options:

Click on Record
If this is enabled, GURU will play a metronome click while Recording is in progress.

Quantized Record
If this option is enabled, GURU will quantize all input to the nearest step. If the option is disabled, GURU will preserve the timing of your playing, using Shift graph values.

Setting a Tempo
The best way to set a tempo or BPM for GURU is to use the BPM function of Riff. Use one of these options to set a desired BPM. This will ensure that the tempo set will have all instruments of a Riff Song to be "locked" together.

1. Use the [Tempo] button on the DJ Panel. This is known as "Tap Tempo".
2. Go to the [Signal Chains] tab of Riff, and press the [BPM] button. This is located towards the top right of the [Signal Chains] tab. Once you press this, you can type in the desired BPM and press [Enter].

Record mode

You can now do one of three things:

1. Press the [Play] button on the DJ panel of Riff – this is to be used if you want to Record the Pattern while hearing it in the context of the rest of your Riff Song.
2. Press the [Play] button on the GURU interface – this is to be used if you want to Record the Pattern while ONLY playing GURU.
3. Click the [Record] button again in order to exit Record-armed mode, if you decide you do not want to continue with Recording.

Once you press play (either in Riff or on GURU) after Record-arming, GURU will go into Record mode. You can now play your beats in live! If you're currently in the Pattern view, you'll notice that the notes you play appear on the relevant Pad lanes as soon as you enter them. GURU will keep cycling through the Pattern, so you can keep playing entering notes.

When you want to stop Recording, you can do one of the following:

• Press the [Play] button on the DJ panel of Riff to stop Recording and return to Record-armed mode.
• Press the [Record] button on the GURU interface in order to stop Recording but continue playback. You can enter Record mode again at any time during normal playback by hitting the [Record] button.

Now try switching to pattern two of "Engine 1" and repeat the pattern record steps. You could also switch to "Engine 2" and record more patterns using the same steps as above.

Commit/Undo

GURU offers the Commit/Undo buttons if you want to carry on jamming, without leaving Record mode. After playing in a part while in Record mode:

• Click the [Commit] button to make the take permanent. GURU will not leave Record mode, and you can carry on jamming on top of the last take.
• Click the [Undo] button in order to revert the Pattern back to its state when you last hit Commit (or, if you haven't pressed [Commit] yet, when you entered Record mode).

Please note that the the [Undo] button is **only** active during Recording and not during normal operation.

Patterns and Graphs: GURU's step-sequencing system

Patterns and Graphs form the step-sequencing aspect of GURU. While GURU is perfectly capable of accepting MIDI input from a host sequencer (in other words, acting as a sampler instrument with Pads triggered by MIDI input from the sequencer), the Pattern/Graph step-sequencing system offers new and exciting ways of manipulating sounds, as well as providing an easy way to creatively experiment with rhythms.

Understanding GURU's step-sequencing system requires a good knowledge of working with **Patterns**, **Graphs** and the **Sequencer Master** section. This chapter provides a brief overview of each of these.

Patterns

Each of the 8 Engines in GURU is endowed with 24 Patterns. Each Pattern contains a lane, divided into steps, for each Pad, on which to enter notes. A Pattern has 1 page of 32 steps by default, which can be reduced down to 1 step if you wish. It is possible to have 16 pages each with up to 32 steps – in other words, the GURU sequencer system has up to 512 steps.
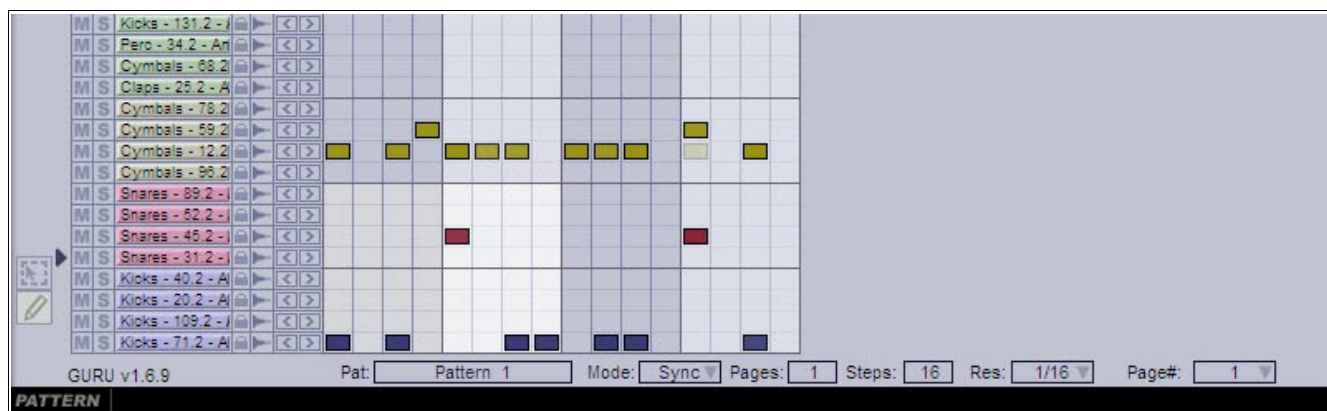
It is important to remember that in Engine 1, and by default in Engines 2–8, 16 steps represents 1 bar – in other words, a step is a 16th note in duration.

However, Engines 2-8 have a tempo multiplier setting, located in the Sequencer Master display, which allows flexible tempo manipulation of the Patterns in each Engine.

You can enter notes by clicking steps in each Pad lane on the Pattern view using the mouse, or use GURU's realtime recording features.

The 24 Patterns are represented by the Pattern keys, which are assigned to MIDI notes C3 to B4. When you click a Pattern key, or play its corresponding MIDI note, that Pattern will be selected for editing in the Pattern view.

Graphs

Each Pad lane in each Pattern has a set of Graphs associated with it. A Graph is a step-automation system for certain sound altering parameters, allowing parameter automation in parallel to the Pattern note-sequencing system: each step in a Graph corresponds to a step in a Pattern. When a Pattern is played, its associated Graphs always play back along with it.
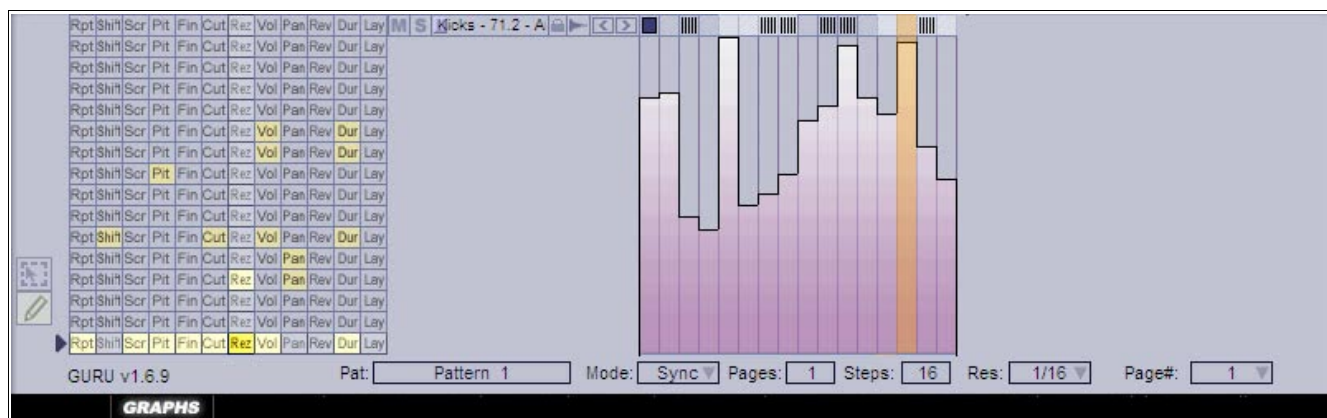
Examples of graphs are; pan, coarse and fine tuning, filter cutoff and filter resonance. There are also graphs for Repeat (the number of times a Pad is triggered within 1 sequencer step, spaced apart equally), Shift (shifts play position of a Pad forwards or backwards between adjacent steps) and Scrub (moves the sample-start point between the start and end of the samples on the Pad). *The following page lists all available Graphs.*

Graphs are examined in detail later in chapter 6 of the main Guru manual. However, it is useful at this point to note that the Shift Graphs is a very important one to consider, as it has a crucial part to play in the feel of your sequences. The Shift Graph, represents timing deviations, smaller than a step, from hard step-divisions. Careful use of Graphs can inject a humanized 'swing' effect into your Patterns.

Graph Types

Graphs are graphical step-automation lanes which control sound-altering parameters of Pads, synchronized to the Patterns in an Engine. The following list shows the available Graphs.

- Repeat
    - Repeats a note a variable amount of times within one sequencer step.
- Shift
    - Shifts play position of a note forward or backwards between neighboring steps.
- Scrub
    - Increases the start point offset for all samples on the Pad.
- Pitch
    - Coarse Pitch
- Fin
    - Fine Pitch
- Cut
    - Filter Cutoff
- Rez
    - Filter Resonance
- Vol
    - Sets Volume
- Pan
    - Pan Control
- Cut
    - Filter Cutoff
- Rev
    - The 'Reverse' graph automates sample reversing. It has four values:- 'Normal', meaning play the sample as specified in the pad editor, 'Reverse', meaning always play it backwards, 'Forward' (self explanatory), and 'Inverse', meaning do the opposite of whatever the setting in the pad editor is.
- Duration
    - Duration sets the length of any sample in musical units, but only affects samples whose 'Gate' option is turned on in the Pad Editor. NB:- to set very short durations, or to affect samples that don't have 'Gate' turned on, use negative values in the 'Scrub' graph. Holding down ALT or ALT+SHIFT when painting in the graph editor will apply the current edit to multiple tracks at once.

- Force Layer
    - The 'Force Layer' graph forces the note to play a specific layer from the pad it's in. This can be very useful when playing back loops with multiple slices loaded to a single pad. 'Force Layer' overrides the layer playback mode control in the pad editor.

Graphs are very closely linked to Patterns – each of the 24 Patterns in each Engine has individual Graphs. All Pad lanes in each Pattern can have individual Repeat, Shift, Scrub, Pitch, Fine Pitch, Filter Cut, Filter Resonance, Volume, Pan, Reverse, Duration, and Force Layer.

6

Chapter 6 - Playing Sounds - Karsyn

Karsyn is a live performance work station software application for virtual instruments. The software is based on the product Forte by Brainspawn, Inc. Open Labs has modified the interface, and updated the design to support touchscreen users. Karsyn is designed for musicians transitioning from hardware rack-mount rigs, and uses the concept of stackable horizontal modules. The modules consist of a control module, output busses for controlling access to audio device outputs, and instrument modules for controlling sound sources.

This document contains basic information to get you started using Karsyn. For additional information, you can view the complete documentation for Forte at: www.brainspawn.com. You can find the complete Karsyn manual by navigating to: *c:\Program Files\OpenLabs\Karsyn\User Manual*

Key Features

Low Latency Multiple Instrument Hosting – Play up to 32 virtual instruments live with mixing and routing to multiple audio outputs.

Performance Automation – Reconfigure virtual instruments and MIDI routing instantly with remote controlled presets.

Advanced MIDI Routing and Filtering – Independent routing and filtering per MIDI input port; MIDI control of audio effect plug-ins and MIDI clock tempo synchronization.

Audio Effects – Add audio effects to audio inputs, instruments, or audio buss outputs.

Audio Thru – Process live audio input through audio effects with very low latency.

Virtual Set List – Presets View displays the set of upcoming configurations in full screen view.

Performance Features – Auto - start on boot up, auto-recovery, remote control, Presets View and other features eliminate keyboard and mouse use during a performance.

Karsyn's Control Module

To open Karsyn:

1. Select the "Open Labs" icon in the lower left corner of the screen
2. Select the "QUIT" button.
3. Select "Go to Windows". The Open Labs shell will close.
4. Click the [START] button and go to "All Programs>Open Labs>Karsyn".
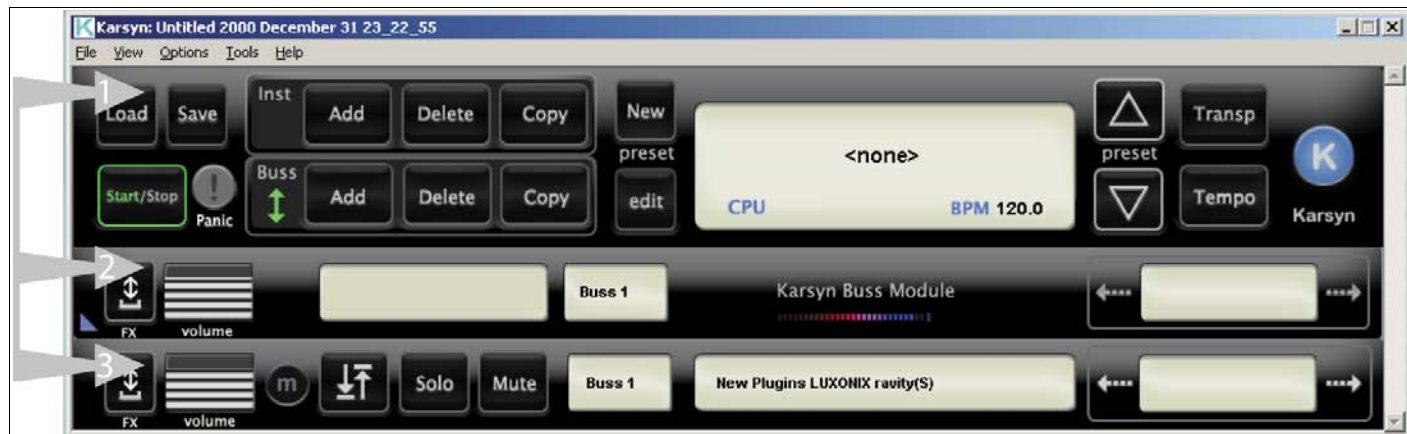
1. Control Module
2. Output Bus
3. Instrument Module

The top rack space is the Control Module. On the Control Module you can:

1. Load and save racks
2. Add, remove, duplicate, and hide output busses
3. Create and manage presets
4. Configure program options
5. Rename plug-ins (open the Add Module menu and right-click to rename)
6. View CPU utilization
7. MIDI Panic

Output Busses
On each buss you can:

- View audio levels going into the audio output device (post buss effects) with the peak level LED
- Change the volume of all audio routed to the buss with the buss volume fader (post buss effects)
- Add, remove or reorder VST and DirectX audio effects
- Display the console for each VST and DirectX audio effect
- Select an audio output device

Adding and Deleting Output Busses

Adding an output buss can be accomplished in several ways:

- Select File>New>Bus menu
- Press [CTRL] + [INSERT] on your keyboard
- Right-click on the Control Module or a Module and selecting [Add Audio Output Buss]
- Press the Buss [Add] button on the Control Module

To delete the selected output buss, as indicated by the selection caret, press [DELETE] on your keyboard, the buss [minus] button on the Control Module, or right-click on the output buss and select [Remove].

Instrument Modules

Below the output busses are the instrument modules. Each contains one VSTi or DXi instrument. On each module you can:

- Adjust the volume of the instrument output (post effects)
- View MIDI input activity
- Display or hide the console for the instrument
- Mute or Solo the module
- Add, remove, or reorder audio effects
- Display the console for audio effects
- Select an output buss

Adding and Deleting Instrument Modules

Adding an Instrument Module can be accomplished in several ways:

- Select the File>New>Module menu item
- Press the [INSERT] key on your keyboard
- Right-click on the Control Module or a Module and select [Add Module…]
- Press the Module [Add] button on the Control Module

To delete an Instrument Module, as indicated by the selection caret, press [DELETE] on your keyboard, the module [minus] button on the Control Module, or right-click on the instrument module and select [Remove].

Instrument Console

Each instrument has its own user interface called a "console". Consoles can be either displayed or hidden.

Docking and Floating the Instrument Console

The console may either be docked (embedded in the window below the instrument module strip) or floating (shown in a separate window).
To float a docked console, double-click on the docking handle or single-click on the float button at the top left of the console window.
To dock a floating window, double-click on the title bar of the console window.
More information on this subject can be found by viewing page 23 of the Karsyn users manual.

Adding and Removing Effects
VST and DirectX audio effects may be inserted into either modules or output busses.

To insert an effect, right-click on an audio effects patch point and select the DirectX effect from the pop-up menu.

To delete an effect, right-click on the effect you wish to remove and select 'Remove Audio Effect' on the pop-up menu.

You can use the up/down arrows on the right to view different effects in the chain.

By right-clicking and opening the insert menu, you may right-click on an effect and add it to your favorites, rename it, or hide it.

Working with Audio Inputs
Audio inputs allow you to run audio through modules and busses. They are available on any instrument module in the Audio Input Configuration tab of the console.

You may select the stereo audio input source and monitor the input levels. Select "No Audio Input" from the input selection box to turn off audio input.

Although some instruments will process audio input, most will not. For this reason, there is a special module you can create from the Add Module menus called 'Brainspawn Audio Input'. This is a module without an instrument. In the Audio Input module, the audio is sent directly from the input to the module's insert effects.

Advanced Performance Recovery
Advanced Performance Recovery (APR) is a performance feature designed to provide Karsyn some additional resilience in a live situation.

Preferences
You can change Karsyn's preferences by selecting Options>Preferences from the menu bar or by right-clicking on the Control Module and selecting "Preferences."

MIDI Input Ports
Enable/Disable MIDI Input Ports – Use this list to enable or disable MIDI input ports for use in Karsyn. If an input port is not checked in this list, it will not be opened for input and it will not be included in the MIDI Configurations list.

Leave MIDI Ports Open – If checked, Karsyn will open MIDI input ports when started but will not close them when the rack power is turned off. It will always close ports when exiting. When un-checked, input ports will be closed when rack power is turned off.

Remapping or Disabling MIDI Program Changes
Incoming MIDI Program Changes may be optionally remapped or disabled. If remapping is on, the program change is remapped to a configurable list of presets. If remapping is off, the program change is sent directly to the instrument which may or may not respond by changing its internal preset. The list can be of any length, up to 128 entries.
Additionally, MIDI program changes can be ignored. When checked, program change messages are not remapped or passed to the instrument.

Key Range and Transpose
Refer to page 29 of the Karsyn manual for much more detailed information on key ranges and transposing.

You may configure an instrument to respond to only a subset of the entire 128-note MIDI keyboard. To do this, click the mouse anywhere within the keyboard graphic. The disabled upper and lower ranges will be displayed in gray. You may change the upper and lower ranges a note at a time by clicking the up/down arrow buttons for each.

Training is a convenient way to automatically set the upper and lower ranges. Press [Train] and a message will show "Training…". Now simply press two notes (simultaneously or one after another) on your MIDI input device. The instrument module must not be muted, and the rack power must be on for the training to succeed.

The MIDI keys that lie within the enabled range are then transposed by the amount shown in the transpose box.

Press [Reset] to enable the entire keyboard.

Key Range and Transpose are MIDI input port-specific. You will have as many ranges and transpose settings as you have input ports. Highlight the input port at the left to display and change the configuration on the right.

Channel Map
Incoming MIDI data, such as notes or controllers that are "per-channel," may be remapped to a different channel or disabled. Remapping can be useful if the instrument supports only certain channels (e.g. only channel 1) or if you wish to do complex routing of multiple MIDI input devices.

Disabling can be useful if you have one controller split between multiple instruments. The list contains each remap entry up to 16 with a "from" and a "to" column. The list will only display entries that are remapped to different channels. Any channel not listed in the "from" column is not remapped.

To add a remap entry, press [New]. To delete a remap entry, highlight the entry in the list and press [Delete].

Training is a convenient way to automatically set the "From" field without having to consult your MIDI controller configuration.

Select a "From" field, press "Train" and the field will change to "Training…" Now simply press a note or change a controller on your MIDI input device, and the field will automatically change to the channel of the MIDI data you sent.

You must manually select the "To" field. The Instrument Module must not be muted, and the rack power must be on for training to succeed. If the "Auto-Train" button is on when "New" is pressed, training will be started automatically.

If you manually configure a remap entry so that "From" and "To" fields are identical, the entry will not remain in the list if you close and re-show the console.

Channel remap is MIDI input port-specific. You will have as many channel maps as you have input ports. Highlight the input port at the left to display and change the map on the right.

Continuous Controller Map
Incoming MIDI continuous controller data may be remapped to a different controller number or disabled. They can also be configured to toggle the instrument's controller value. This can be useful to remap. For example, your foot-pedal MIDI input to B4's Leslie speed so that one tap slows Leslie and a second tap speeds it up. The list contains each remap entry up to 128 with a "From" and a "To" column, along with a "Toggle" checkbox. The list will only display entries that are remapped to different controllers or configured to toggle. Any controller not listed in the "From" column is not remapped and toggle is disabled. Any disabled controllers will not be passed to the instrument.

To add a remap entry, press [New]. To delete a remap entry, highlight the entry in the list and press [Delete].

Training is a convenient way to automatically set the "From" field without having to consult your MIDI controller configuration. Select a "From" field, press "Train" and the field will change to "Training…". Now simply change a controller on your MIDI input device and the field will automatically change to the controller number you sent. The instrument module must not be muted and the rack power must be on for training to succeed. If the [Auto-Train] button is on when [New] is pressed, training will be started automatically.

You must manually select the "To" field. Some instruments provide a comprehensive list of MIDI controllers which will be shown in the "To" field. Many do not, and you must consult the instrument manual and select a numerical field.

If you manually configure a remap entry so that "From" and "To" fields are identical, the entry will not remain in the list if you close and re-show the console.

Continuous controller remap is MIDI input port-specific. You will have as many controller maps as you have input ports. Highlight the input port at the left to display and change the configuration on the right.

Toggle Mode
Toggle Mode configures a controller mapping to toggle the "To" value between 0 and 127 each time the "from" value transmits a value of 127. This feature allows you to assign MIDI foot switches to features on the instrument like an organ's rotary speed: Click once to slow the rotors down and click again to speed them up.

Saving and Loading MIDI Configurations
MIDI Configurations are assigned to an instrument module, but some settings can be saved and reloaded from a file. Press [Save] to save a configuration. This includes the following for each MIDI input:

- Key Range
- Transpose
- Channel remap
- Controller remap

This allows frequently used MIDI configuration parameters to be applied to other instrument modules or stored for future use. When a MIDI Configuration is loaded, you may optionally load or ignore specific portions of the configuration.

Setting a Default MIDI Configuration
The last-used MIDI configuration is always saved with an instrument module. Usually, this MIDI configuration will be reloaded automatically on any future instrument module using the same instrument. However, if you select a MIDI configuration to be the default, it will be used instead.

Insert Manager

Right-click and select Insert Manager to control the order of inserts.

Showing Effects Consoles

Double-click an effect to show its console. Working with audio effects consoles is very similar to working with instrument consoles. The only difference is that the console window is always floating (never docked) and there are no Program Map or MIDI Configuration tabs. Close an effect console by clicking the upper right hand [Close] button.

Using Effect Presets
Accessing an audio effect preset is identical to accessing instrument presets.

MIDI Routing to Effects

- MIDI input is sent to insert effects. The filtering is different for effects than for the instrument module.
- Program changes from MIDI are never sent to insert effects
- The Instrument Channel and Controller remap is not applied to MIDI before it goes to the effect. Each effect has its own controller remap to apply automation.
- Insert Effect Controller mapping is not MIDI input port specific (unlike an instrument's controller remap).
- Instrument Transpose is applied so that plug-ins like harmonizers can build chords on incoming audio data from MIDI notes.

Insert Effect Automation using MIDI Continuous Controllers
Incoming MIDI continuous controller data may be remapped to VST or DirectX 8.0 automation parameters. They can also be configured to toggle the effect's parameter. This can be useful to remap (For example, your foot-pedal MIDI input to Amplitube's stomp effects).

The list contains each remap entry up to 128 with a "from" and a "to" column, along with a "toggle" checkbox. The list will only display entries that are remapped to automation parameters. Any controller not listed in the "from" column is not remapped and toggle is disabled. Any disabled controllers will not be passed to the instrument.

To add a remap entry, press [New]. To delete a remap entry, highlight the entry in the list and press [Delete].

Training is a convenient way to automatically set the "from" field without having to consult your MIDI controller configuration. Select a "from" field, press [Train] and the field will change to "Training…".

Now simply change a controller on your MIDI input device and the field will automatically change to the controller number you sent.

The Instrument Module must not be muted, and the rack power must be on for training to succeed.

If the [Auto-Train] button is on when [New] is pressed, training will be started automatically.

You must manually select the "to" field. Most effects provide a list of automatable parameters which will be shown in the "to" field.

Working with Presets

Presets are one of the most powerful features of Karsyn. Presets enable you to use a single rack for an entire performance and automate preset changes, output routings, and mutes.
Each rack file can contain multiple presets visible in the Presets window.

Each preset contains a complete configuration including:

- A preset for every instrument in the rack. This does not need to be a saved preset because the actual settings of each instrument are saved instead of just a name.
- An effect preset for every audio effect in the rack. Again, this does not need to be a saved preset.
- A MIDI input enable for each port on each Instrument Module.
- A MIDI keyboard range, transpose, channel and controller remap for every MIDI input on every Instrument Module.
- An output buss selection for every Instrument Module
- A tempo (which many VST and DirectX plug-ins will follow).

Note that the Program Change remap is not included in a Preset. Presets may be optionally changed using incoming MIDI program changes. When this feature is enabled, MIDI Program Remap does not work because the program change messages are used to change presets instead of being remapped and sent to the instruments.

Creating Presets
Presets can be created by clicking the [Presets] button to the left of the presets list on the Control Module. The new presets will be given a name that represents the time and date the presets is created.
Presets can also be created from within the Presets Manager (described below).

Changing Presets from the Control Module
You can change the current presets by clicking the up or down arrow to the right of the presets list.

Changing Presets from a QWERTY Keyboard
You may also advance to the next presets by pressing the SPACE BAR, or by assigning a shortcut key to each Preset.

Presets Tempo
Each preset can contain a tempo that instruments and effects can sync to. In addition, you may optionally choose to have Karsyn adjust the tempo dynamically from incoming MIDI Clock messages from a chosen MIDI input port.
To alter the preset's tempo, click the [Tempo] button in the Control Module.
The tempo dialog will let you adjust tempo using the horizontal slider control- or by typing the tempo into the edit box.
If you click [Follow MIDI Clock] on the input port, Karsyn will follow the tempo of incoming MIDI Clock messages from the highlighted input port.

7

Chapter 7 – Recording - REAPER

Recording with an Open Labs Production Station

Ready to jump right in and start making music? This section will get you going. One great way to learn REAPER quickly is to read the Keyboard Control section of Preferences (Ctrl-P). Reading this section will give you insight into just how flexible and powerful REAPER is. Can't find what you're looking for in REAPER? Try right-clicking on everything, you'll be surprised at the power hidden just below the surface.

The following pages will teach you how to record using your Open Labs production station. This is not intended to replace the REAPER PDF manual. Topics covered in this guide are:

- Opening REAPER
- Custom Color Themes
- Inserting and Using a VSTi
- Inserting an Audio Track
- Setting up VSTi Preferences
- Recording with a VSTi
- Rendering a Mix to File for Burning to CD
- Exporting Tracks for use in Other Programs

New to Recording?

If this is your first time using any type of recording system, you may want to research the basics of Pro Audio, producing music, and MIDI recording. A good place to start is KVR Audio. (http://www.kvraudio.com/wiki/)

Also, be sure to register on the Open Labs user forum, (http://forum.openlabs.com), where you can read and discuss music with artists like yourself.

Opening REAPER for the First Time
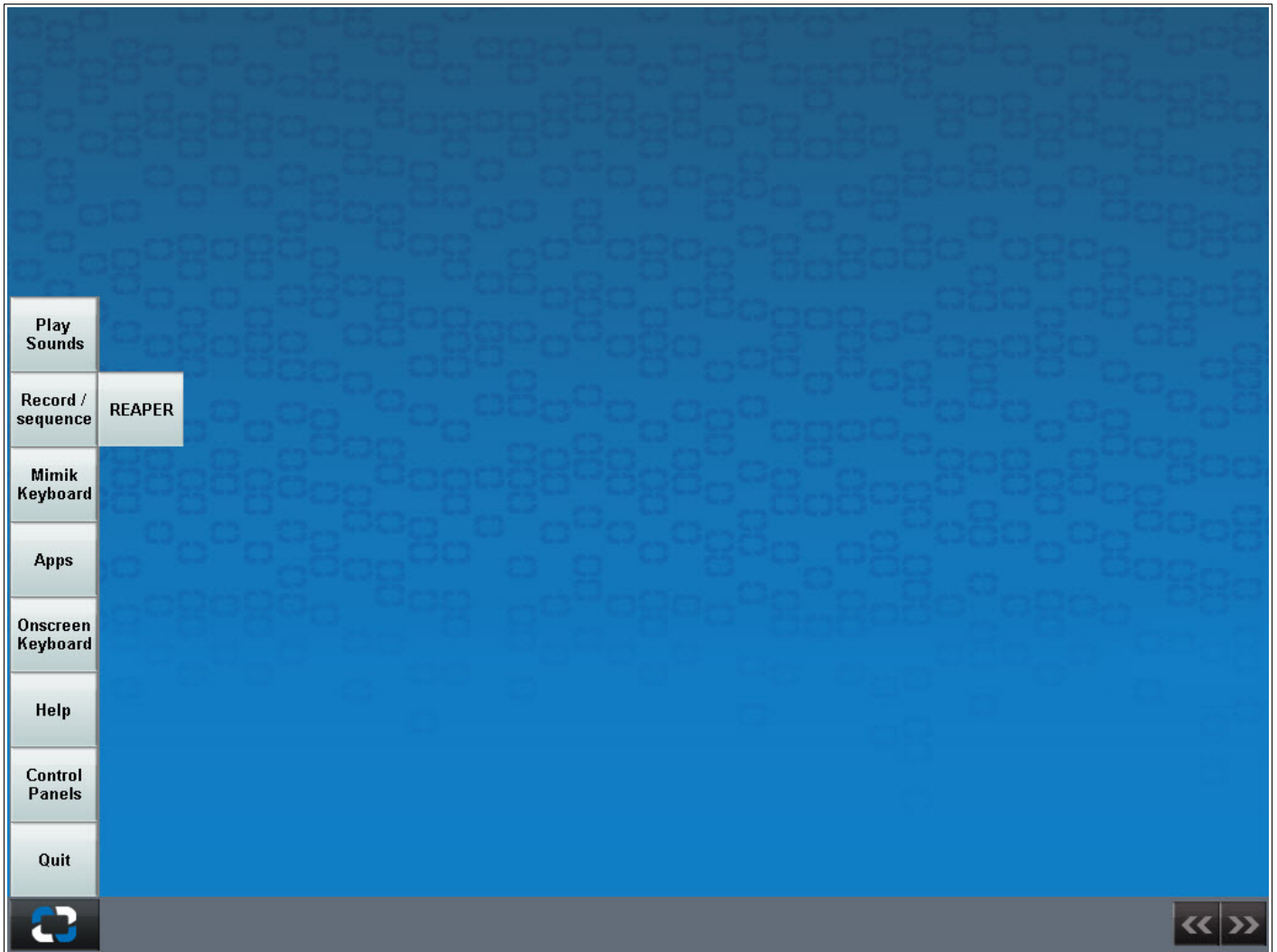
To open REAPER, click on the Open Labs icon. The icon is located at the bottom left of the opening screen. If you have exited the Open Labs shell, simply double left-click the REAPER Icon on the desktop. This will launch REAPER.

When you open REAPER, if it looks different than the pictures used in this guide, this is because REAPER allows you to use a custom color theme. In the following example, you will be shown where to switch color themes.

There are a couple of ways to select a color theme for REAPER. First, you can simply go to Options>Color Themes, and select a new theme. Or you can use the keystroke combination CTRL+ALT PGUP (to scroll theme up) or CTRL+ALT PGDN (to scroll theme down).
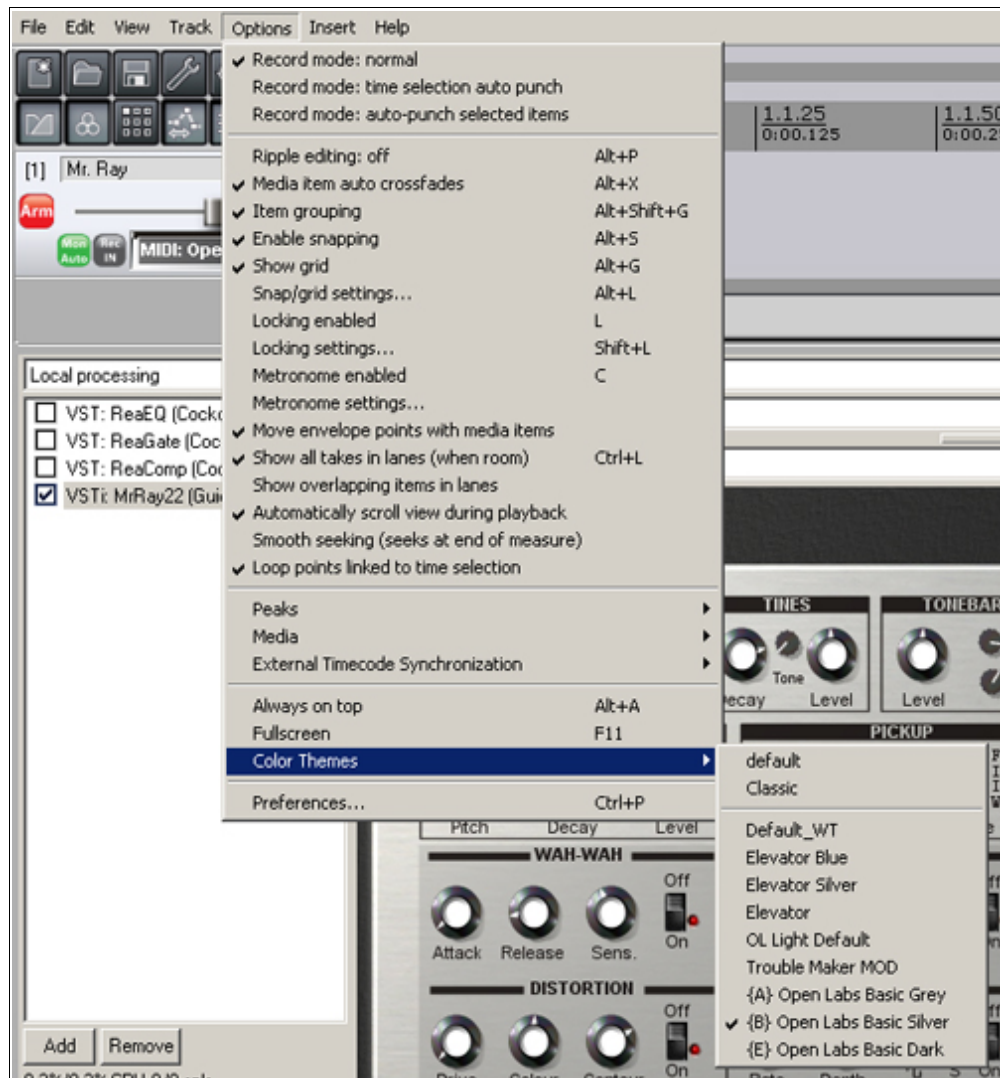
Additional custom color themes can be downloaded from the REAPER user forum, (http://stash.REAPER.fm).

Inserting and Using a VSTi
Using VSTi's is simple in REAPER. *REAPER on your Open Labs keyboard has already profiled your VSTi's, and is ready to go.* The following section tells you how to scan directories of VSTi's that you have added. If you have not installed additional VSTi's, then you can skip this next section.

Setting VSTi Preferences
There may be some options that pertain to you and your setup in the following example. Usual options are the "get plug-in names" scanning options. If you have problems scanning VSTi's, disable the "Get VST plug-in names/type when scanning" that REAPER does by default.

VST Plug-in Settings

Click the [Auto Detect] button to make REAPER scan your system and detect VST plug-ins.
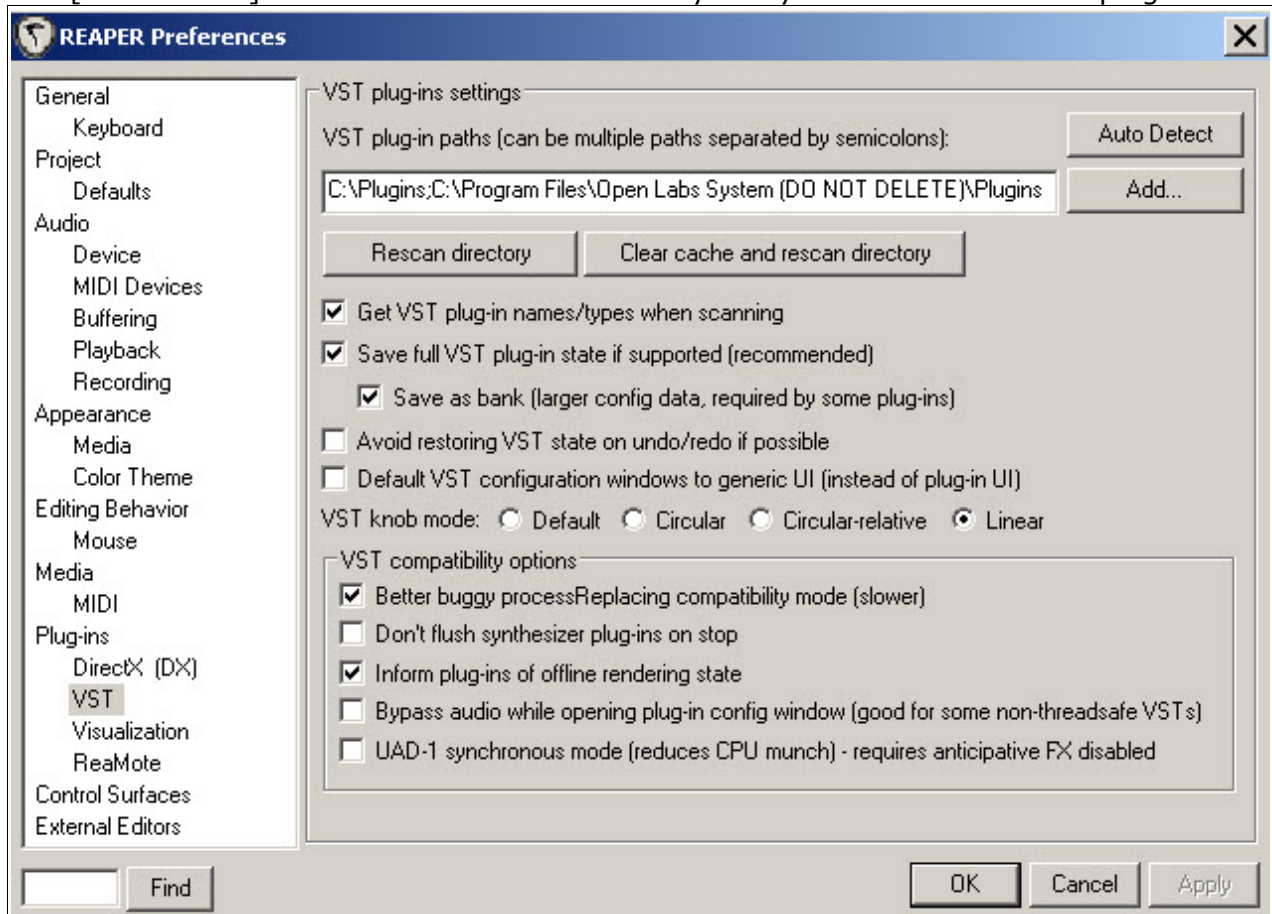
VST plug-in paths: Enter a path here, or click the Add button to browse the directory that contains your VST plug-ins. Multiple directories may be added to this list. Separate each directory with a semicolon. Multiple directories are shown in the above example. If you use the add button, the semicolon is added for you.

Rescan directory: Click this button to force REAPER to rescan your VST directory(s). If you have installed a plug-in and it does not show in the list, use this option.

Clear cache and rescan directory: Click this button to clear the plug-in cache and force REAPER to build a new list of VST plug-ins. If you have installed a plug-in and it does not show in the list, and RESCAN DIRECTORY does not resolve, then use this option.

Get VST plug-in names/types when scanning: By default, REAPER retrieves the full plug-in name and type when scanning. Clear this checkbox to prevent this behavior.

What does this mean? *If you have this option enabled, it will take much longer to scan your VST plug-ins, because as REAPER scans and initializes each one, it will increase the likelihood of a "buggy" VST to crash REAPER. However, if you do not have it on, it will not differentiate between VST effects and instruments and will put them all in the same folder. You will be able to use them just the same, but, they will show up a bit differently.*

Save full VST plug-in state if supported (recommended): By default, REAPER saves the full VST plug-in state if the plug-in supports this function. Clear this checkbox to prevent this behavior.

Avoid restoring VST state on undo/redo if possible: Select this checkbox if you are having issues with VST plug-ins reloading patches when using the Undo function in REAPER.

Default VST configuration windows to generic UI (instead of plug-in UI): This gives you the option to view by default the generic VST window in REAPER instead of the plug-ins original GUI. Here is an example:

Plug-in GUI: (EVM Bassline)

Generic UI of the same plug-in:
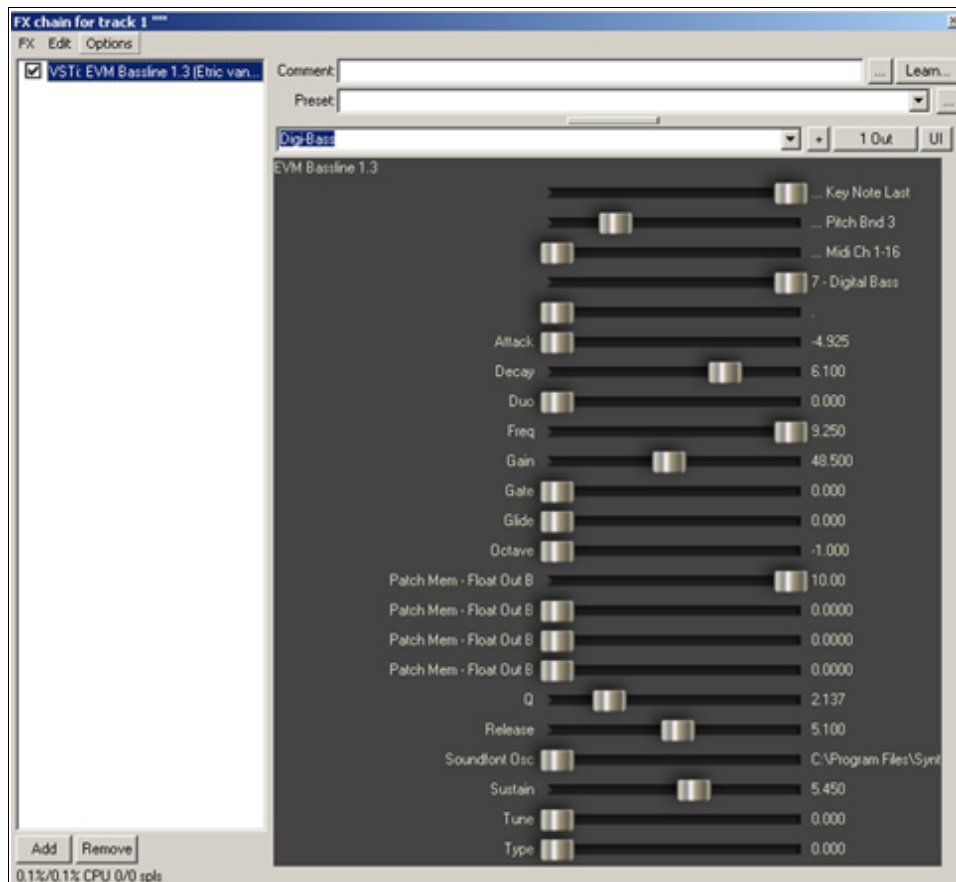
Better buggy processReplacing compatibility mode (slower): Selecting this checkbox may provide compatibility with poorly coded or older VST plug-ins, but will also increase the CPU overhead of REAPER.

Don't flush synthesizer plug-ins on stop: In general, this should be unchecked, unless you have plug-ins that don't handle the mainschanging properly (some SynthEdit-based ones reload all of their samples, for example).

Inform plug-ins of offline rendering state: This enables REAPER to "tell" plug-ins that have the ability to "hear" that it is rendering, and if the VST(i) has the feature, it will usually increase the quality for rendering (Voxengo plug-ins do this; so does Image-Line's Sytrus and Fxpansion's BFD).

Don't flush UAD-1 plug-ins on stop (helps avoid native CPU munch): This option prevents the UAD-1 from taking too much native CPU.

Set your VST path here:

Scan for your VSTi's using this button:
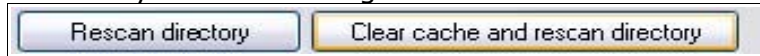
Setting up a Virtual Instrument

Starting from a new project window, this how you prepare a plug-in (DXi, VSTi, or other supported plug-in) for output:

Press Control+T to add a new track. Then click the **FX** button:

You will then see the FX chain view page. Press the Add button located to the bottom left.
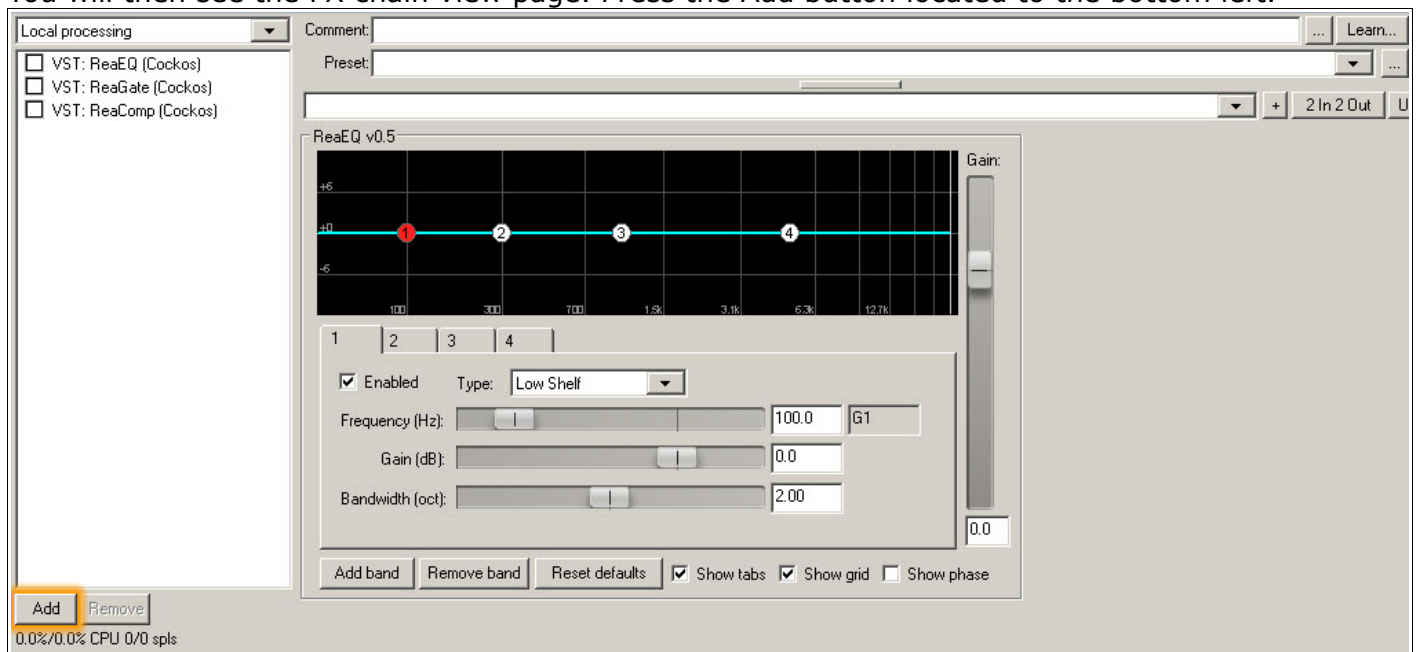
On the left side, select "VSTi". This will show you all the VSTi's included with your Open Labs production station, as shown in the following illustration.
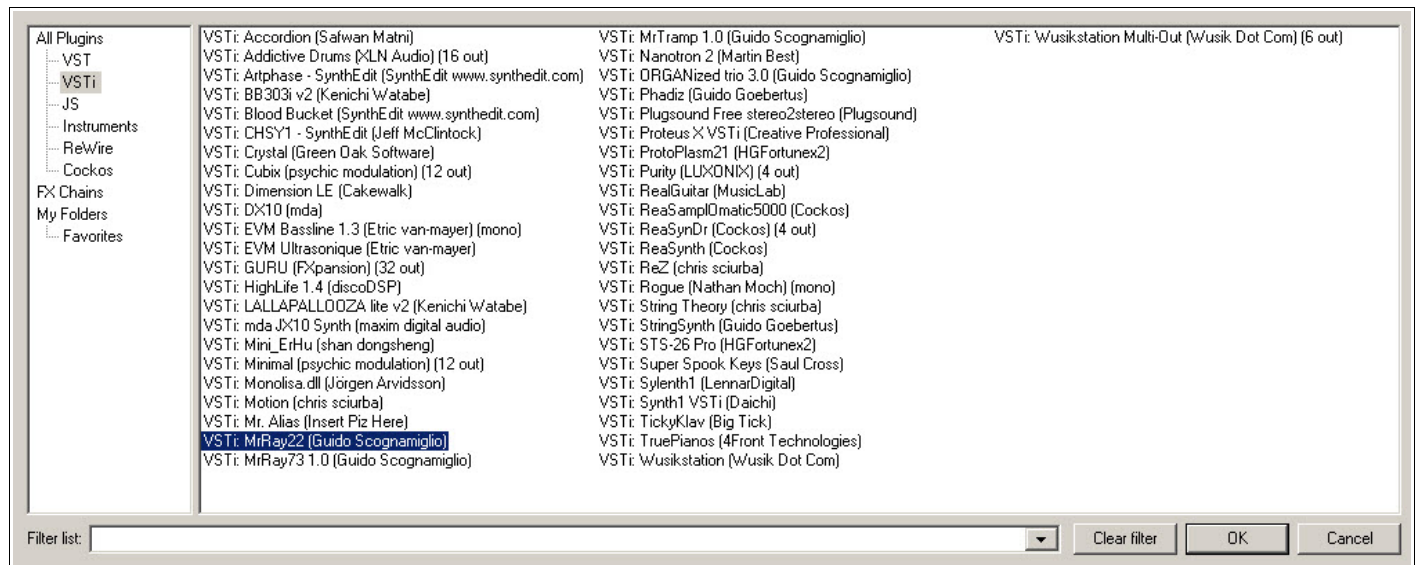
Select VSTi from the left side menu. For this example select MrRay22 in the VSTi window, either double left-click, drag and drop it onto the track, or select it and press "OK". MrRay22 is included with your Opens Labs production station.

Setting up Recording

The next thing to do is arm your track for MIDI recording. Press the ARM button so it turns red. After arming the track, you will be able to hear this VSTi when you play notes on the keys.

By default, REAPER on your Open Labs production station is set to record MIDI whenever the ARM button is pressed. However, there is more than one recording mode for MIDI. Right-click the Record icon (pictured above), and you will see these options:

- **Record Input**: This is the default recording mode. It will record MIDI when a MIDI input is selected. This mode will record new items over others if encountered.
- **Record Output**: (MIDI) similar to the input mode, but instead it records the MIDI coming out of the FX chain. For instance, it would record the effects of a MIDI VST on to the track. It also renders the live output of a VSTi.
- **Record MIDI**: This will enable overdubbing in selected items, and will add notes within items, this is great for "loop" recording.
- **Record MIDI**: *Replace in selected items:* this will replace notes within items instead of overwriting the items themselves. The notes within will be entirely erased as you record over them.
- Track Recording Settings (Input Quantize: Format, Etc.): This allows you to setup input quantizing. It also allows you to dial in groove and swing settings, as well as set the format and .WAV bit depth of incoming audio tracks.
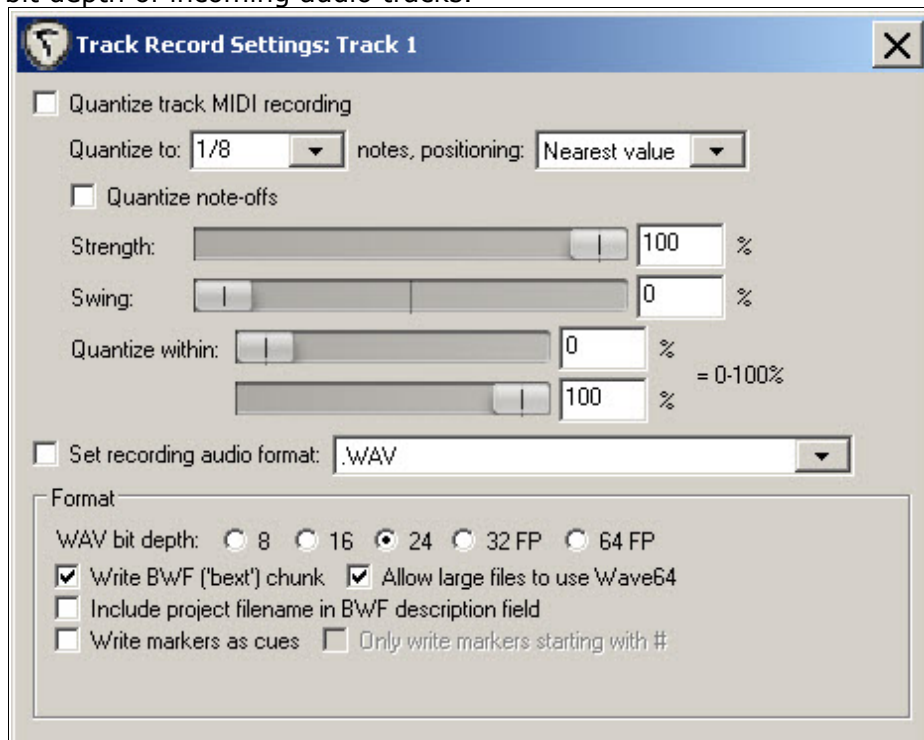
Setting up Track Input

If you want to change the input source of a track, left-click the button. This is located on the VU meter on the track:

In the examples below you will see the input source sections. If you need to input a drum machine, guitar, or microphone, follow these guidelines:

The first is **Mono Input**. Here you can choose a mono audio in source from the sound card.

Mono input allows a source to be assigned to an individual input of the sound card. For instance, if you want to plug in a microphone, guitar, drum machine, and a keyboard all at once and record them, just add a track for each source, and select an input for that source. Plug the microphone into MIC input 1 and the guitar into Mic Input 2 (these are the front inputs of the production station). For the drum machine and keyboard use LineIn 1 and LineIn 2 (these are located on the back of the production station). Remember to arm your tracks!

The second is **Stereo Input**. Here you can choose a stereo audio in source from the Presonus Firebox.

Stereo input allows a source to be assigned to paired inputs of the Firebox. The process is the same as for the mono inputs, except the stereo-ins are paired together as Mic 1 and 2, and LineIn 1 and 2.

The third is **MIDI Input**. Here you can choose a MIDI port and a MIDI channel for that port. This will list all active MIDI ports.

The Open Labs MIDI Driver 2 is the port that all your production stations control and keyboard keys are routed through. By default, all tracks are preset to this port. If you need to route MIDI from an external sequencer or MIDI device, use the Presonus FIREBOX MIDI-In. The firebox port is located on the back of your Open Labs production station. Here you have options to only record certain MIDI channels, or all MIDI channels. You can even select all channels from all MIDI inputs. Select the input you want to use.

Recording in REAPER with a VSTi

Press the [Editor Select] button until REAPER reaches Bank C.

Master Panel Layout and Assignments for REAPER
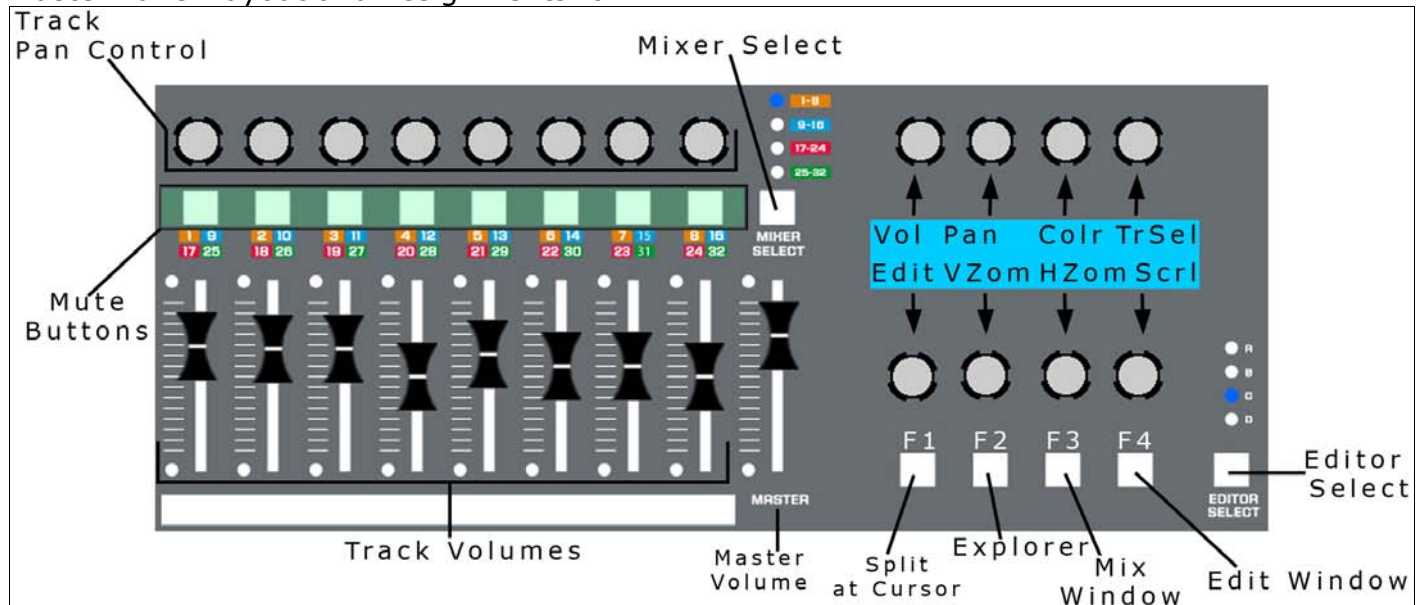
1. Track Pan Control - Allows for left to right Panning on the adjacent track.
2. Mixer Select - This button allows you to select a different track group. The Mix Edit Panel is setup to control 32 tracks in REAPER. Here are the selector assignments.
    · Tracks 1 - 8 Orange
    · Tracks 9-16 Blue
    · Tracks 17-24 Red
    · Tracks 25-32
3. Mute Buttons - Allows for muting the adjacent track.
4. Track Volumes - Each volume fader is tied to the adjacent track in REAPER.
5. Master Volume - Controls the master volume slider in REAPER.
6. F1 - Split at cursor - Allows you to split the selected event or events at the cursor.
7. F2 - Pressing this button brings up the REAPER Media Explorer window.
8. F3 - Pressing this button brings up the REAPER mixer window.
9. F4 - Pressing this button switches REAPER over to the a full screen view of the track environment.
10. Editor Select - The default editor bank for REAPER is Bank C.

DJ Control Panel Layout and Assignments for REAPER
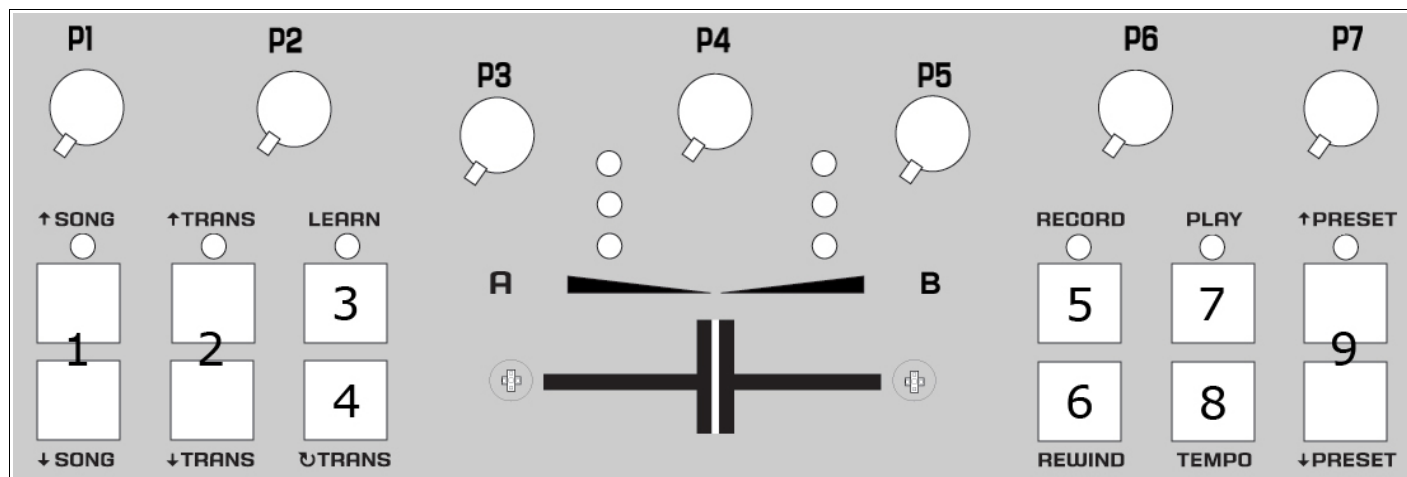
1. Not assigned to REAPER
2. Transpose UP/DOWN - This will shift the selected instrument up or down one octave at a time.
3. Not assigned to REAPER
4. If you transposed an instrument, this will reset that instrument back to the zero.
5. Record - If you have a track or tracks armed in REAPER this will start the record function.
6. Rewind - Sends the Transport back to start of the project.
7. Play - Initiates playback of a track.
8. Tempo - Allows you to use "tap" tempo to set the desired BPM for a project.
9. Preset Change UP/DOWN - This will allow you to go to the next preset of an instrument. The instrument has to allow MIDI preset change.

Recording
To record with the VSTi you have inserted, just press the Record button on the master panel. You can also give the track a name.

You can then start playing the keys and the MIDI notes will be recorded.

Once you record a few bars, this is what you will see:
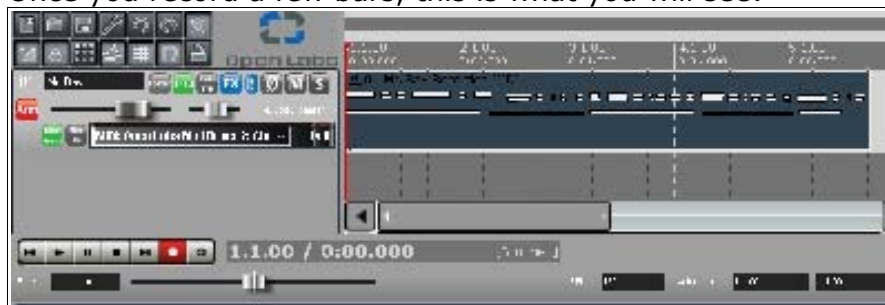
Hit the play button to play it back. *You may need to hit rewind.*

The metronome will help you to stay on time. Here is how you setup your metronome: First, right-click the metronome icon.

You will then see the metronome settings window.

The **Metronome Settings** window allows for various options for your metronome click sound.
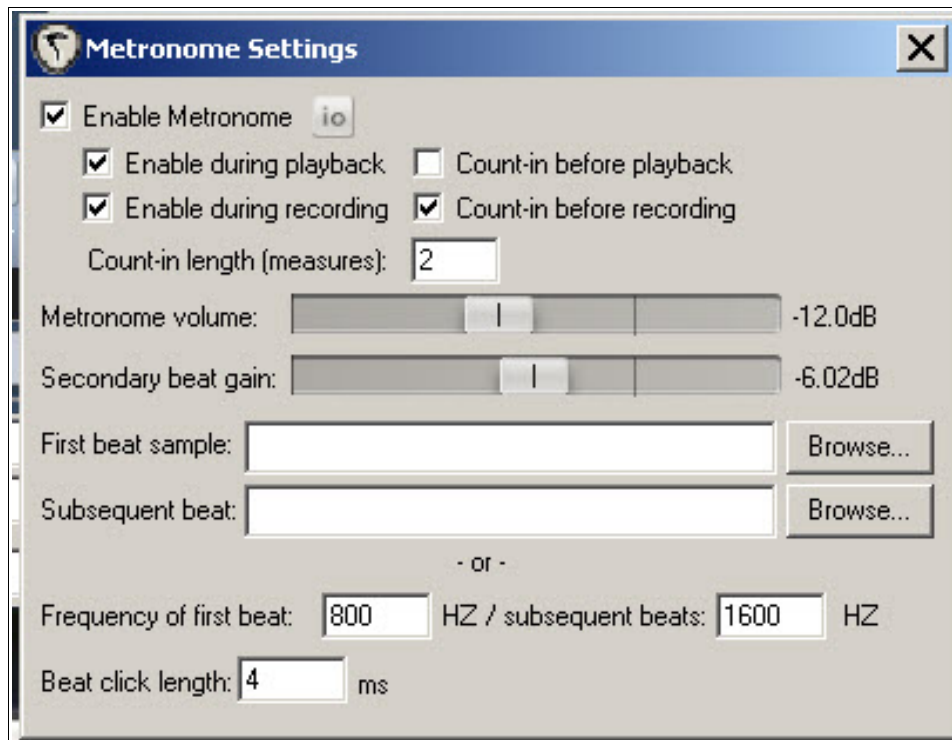
Enable Metronome

- Enable during playback and/or count-in before playback.
- Enable during recording and/or count-in before recording.
- Count-in length: Allows you to pick how many counts you want it to click before recording or playback starts. There will be four clicks per number. For instance, if you type in the number 1, you will get four clicks before recording or playback starts. If you add the number 2, you will get eight clicks before recording or playback starts.
- Metronome volume: Allows the adjustment of the level of the first click.
- Secondary beat gain: Adjusts the level of all clicks after the first click.
- First beat sample: Allows you to choose a media file as the first sound of your click. If you have a sound you would like to substitute as the click source insert it here. This sound will be the first hit of the click. The volume of this one is controlled by the Metronome volume slider.
- Subsequent beat: Allows you choose a media file to be the secondary click of your metronome. The volume of this click will be controlled by the Secondary Beat.
- Frequency of first beat/subsequent beats: This is for adjusting the pitch of the default metronome click. This does not affect a custom click source.
- Beat click length: This adjusts the length of the default metronome click in milliseconds. A lower number makes the click sound shorter: A higher number makes the click sound longer. This does not affect a custom click source.

Notes:
If you do choose a custom sound it will be used until you select the text in the custom field and delete it.

If you want eighth note clicks instead of the default quarter note click, you will need to press ALT+ENTER to open the Project Settings window>Project Settings tab.
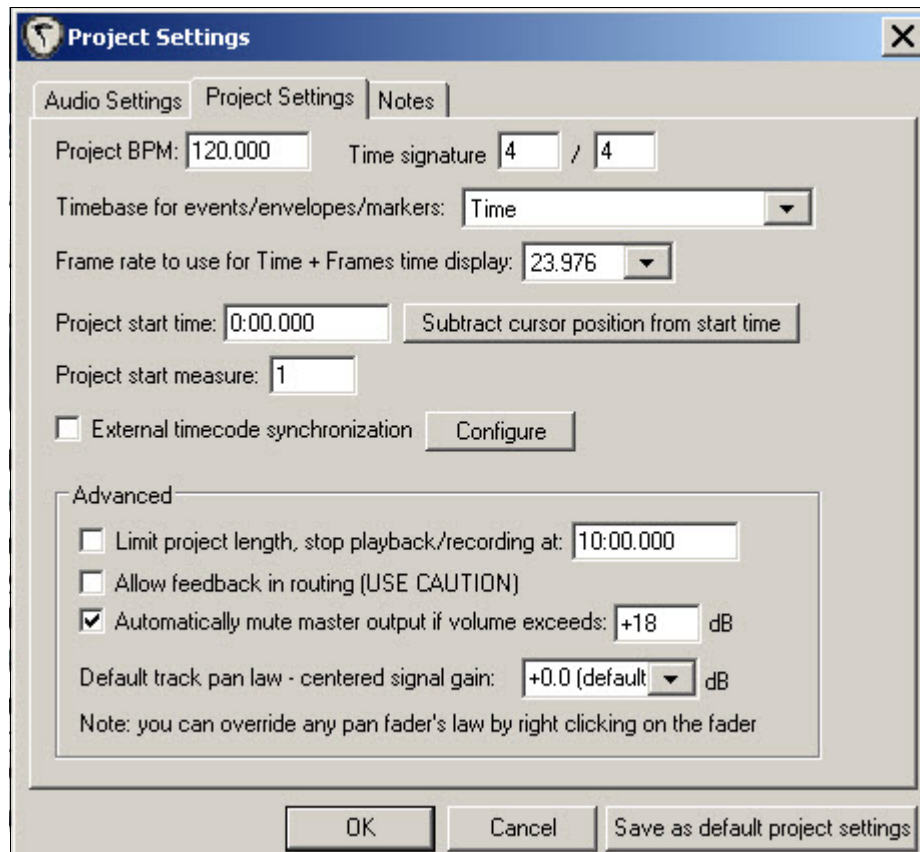
On the Time signature setting, change it from "4/4" to "4/8". This will give you eighth note clicks instead of default quarter note click. You can also adjust your project tempo (BPM) here. Refer to the REAPER PDF manual for more info regarding the Project Settings window.

Looping
If you would like to loop the event you just recorded, you can do so by selecting a region to loop. Simply left-click and drag from the start of the project to the end of the area you want to loop. In this example, 1.1.00 to 5.1.00 is highlighted.
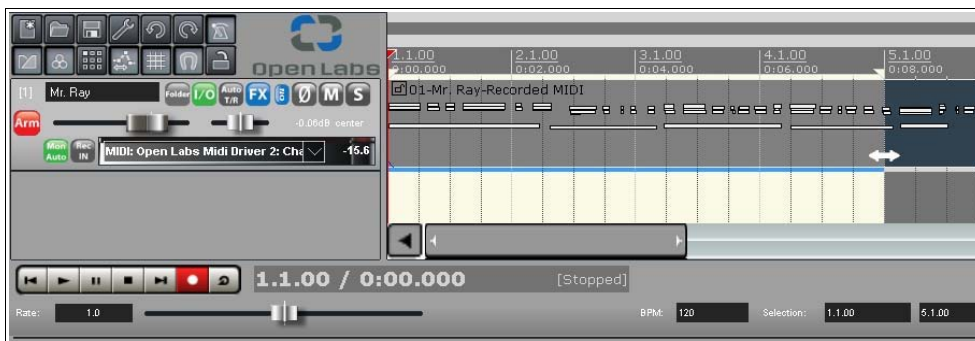
To loop playback or recording, you need to turn cycle on. Do this either by pressing the cycle button, or by using the "R" key on your QWERTY keyboard. Once playback or record reaches the end of the selection, it will return to the beginning and playback. Hence, looping.
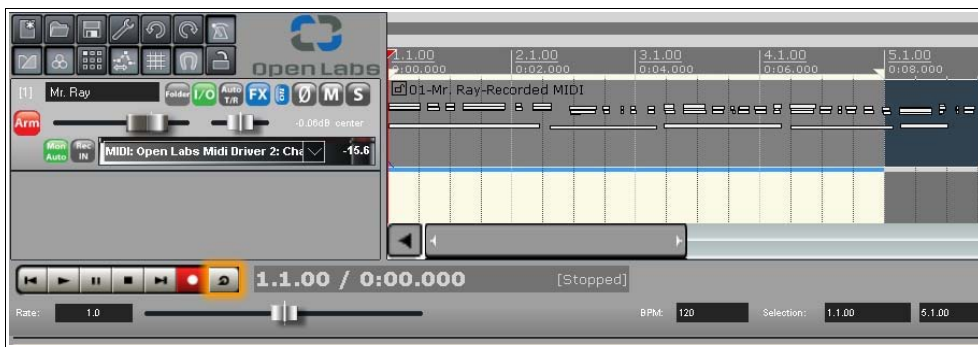
You can use the same steps to record a loop, except you will want to draw out the region selection before you record. Left-click on the timeline and drag.

The selection is stretched from 1.1.00 to 5.1.00. This sets up the project as a four bar loop and will cycle around once the transport reaches the end.

For recording MIDI drums, you might want to set the record mode to "overdub". Every time it cycles, it will allow you to add more notes.

When loop recording is in normal MIDI record mode, every time the transport cycles around a new take will be created. Start recording and let it make four cycles. Vary what you play each cycle.

This allows you to choose the best take afterward.
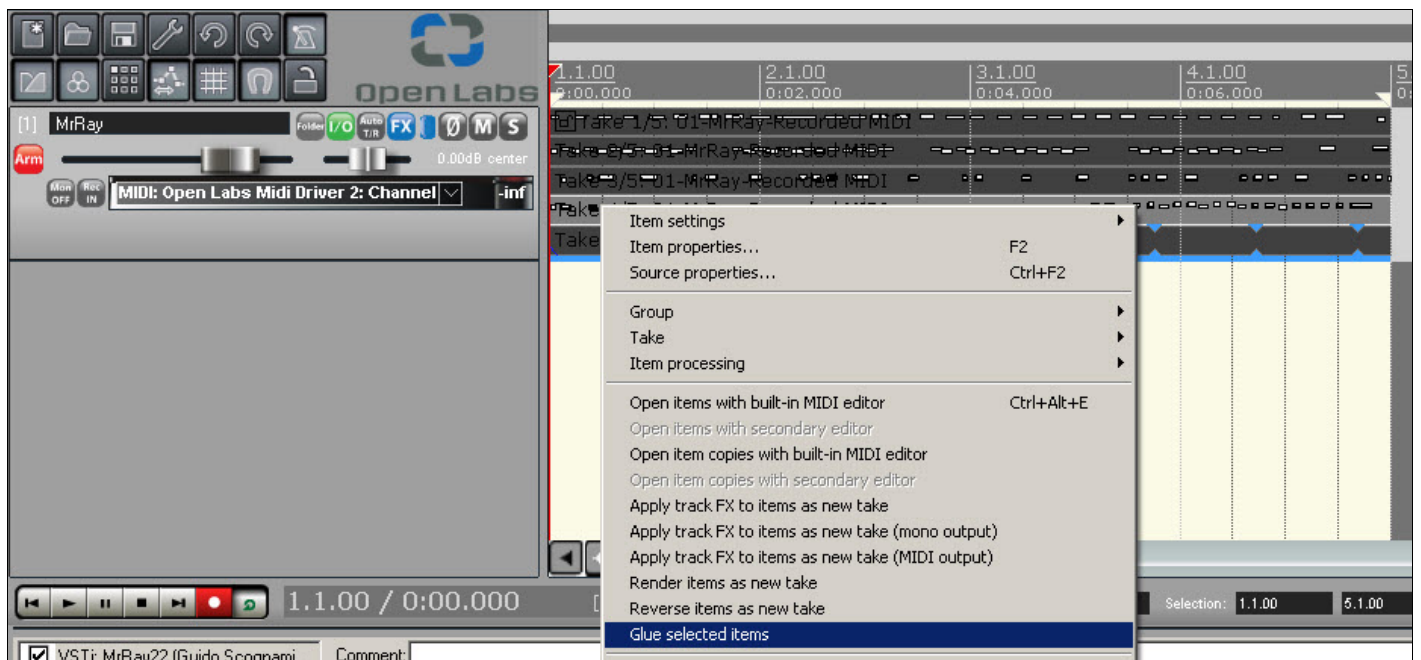
As you can see, four takes were recorded in this recording. To monitor an individual take, just left-click that part of the take, or press "T" to toggle to the active take and it will solo itself from the others. This example has the second take selected. Right-click the take you want, and select "glue". This keeps the take you want, while deleting the others.

Refer to the REAPER PDF manual for more information on recording with plug-ins.

Mixing

REAPER offers Track Mixers and a Main Mixer. Use either - or both - to set volume and pan. Select mute and solo, to add effects to your tracks.

REAPER comes with a large assortment of built-in, high-quality effects. Add them by clicking the FX button on the track.

In REAPER, groups are called "folders". Use folders to apply volume, pan, and effects to a group of tracks. This is also known as linking tracks. To create a folder:

1. Place the tracks you want to link together in the Track Control Panel.
2. Add a blank track above them (CTRL + T). This will be the Folder track.
3. Click the folder icon on the folder track. The icon will change, and all tracks below the folder track will become part of that folder.
4. Click the folder icon on the last track you want included in the folder. The icon will change, and the folder is ready to go.

Importing Existing Tracks

You can add existing sound files to your REAPER project by:

1. Clicking and dragging them in. REAPER will automatically add tracks to accommodate them.
2. Inserting them through the "Insert" menu item. *Note the media item under the Insert menu is for supported sound formats and for video media as well.*

Rendering

When your mix is finished, it's time to combine your individual tracks into a single, stereo file.

Rendering is done by clicking File>Render, or pressing the C5 button on your Open Labs production station's master panel. REAPER supports .WAV, .Ogg, .AIFF, as well as many other audio formats.

You can also burn to MP3. Please use the following steps to set REAPER up for creating MP3 audio:

1. You must download a MP3 codec and place it in the main REAPER directory.
2. Download the LAME encoder (http://www.free-codecs.com/Lame_Encoder_download.htm), and unzip the downloaded file.
3. Then extract "lame_enc.dll" into the main REAPER directory ("C:\Program Files\REAPER").
4. Restart REAPER. Make sure your use of the MP3 format is legal; go to (http://mp3licensing.com/) for details.
5. If you plan to burn your new song to audio CD, select "Audio CD Image (CUE/BIN)" as the output format and check "Burn CD Image after render".

The following image shows the "Render to file" dialog box:
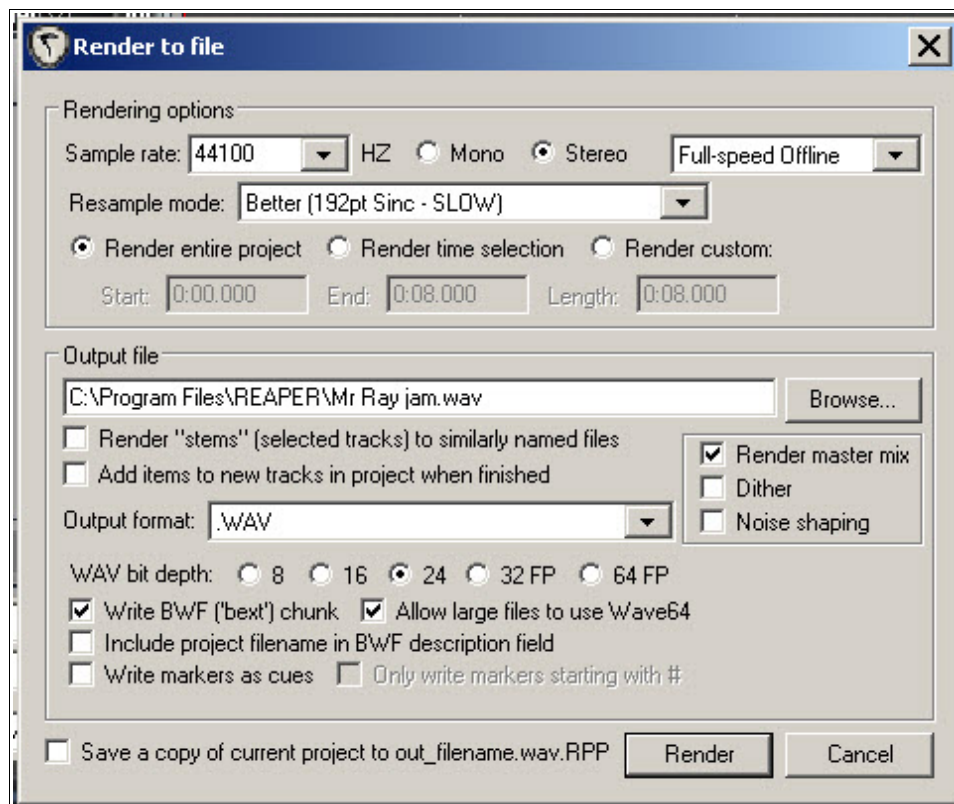
1. Set Sample Rate.
2. Render either the entire project, or the time selection.
3. Output file: Browse for a folder to store your track.
4. Chose the Output format.
5. Choose bit depth.

Once you have the settings you want, press the [Render] button. A process window will appear displaying the status of the rendering. Once it has finished, you will be able to burn it to CD.

Your Open Labs production station is bundled with a CD/DVD burning program. If you are unsure how to access this program, please call an Open Labs technician.

Exporting Tracks

If you would like to prepare a MIDI track for export into "stems" to be used by another program, you will need to consolidate the project. The first step is converting the MIDI to audio.

1. Right-click your MIDI event. Note the section, "Apply FX to items as new take" for stereo.
2. For a mono take note the "Apply FX to items as new take (mono output) section".
3. Once you make your selection, the "Applying FX" window appears and processes your MIDI event to a chosen format.
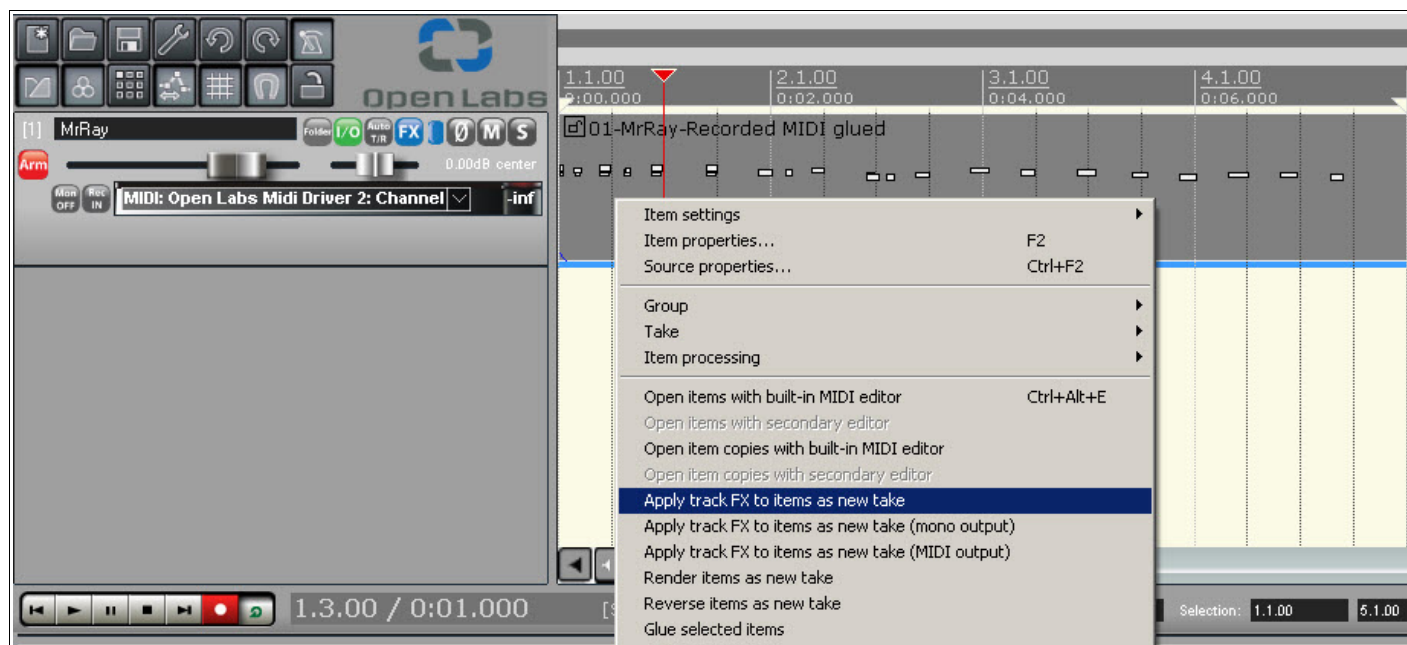
The processed event will show your original MIDI event with the new AUDIO take directly underneath. From here you need to decide whether the audio portion of the event is what you want. Left-click to select the audio portion of the event.
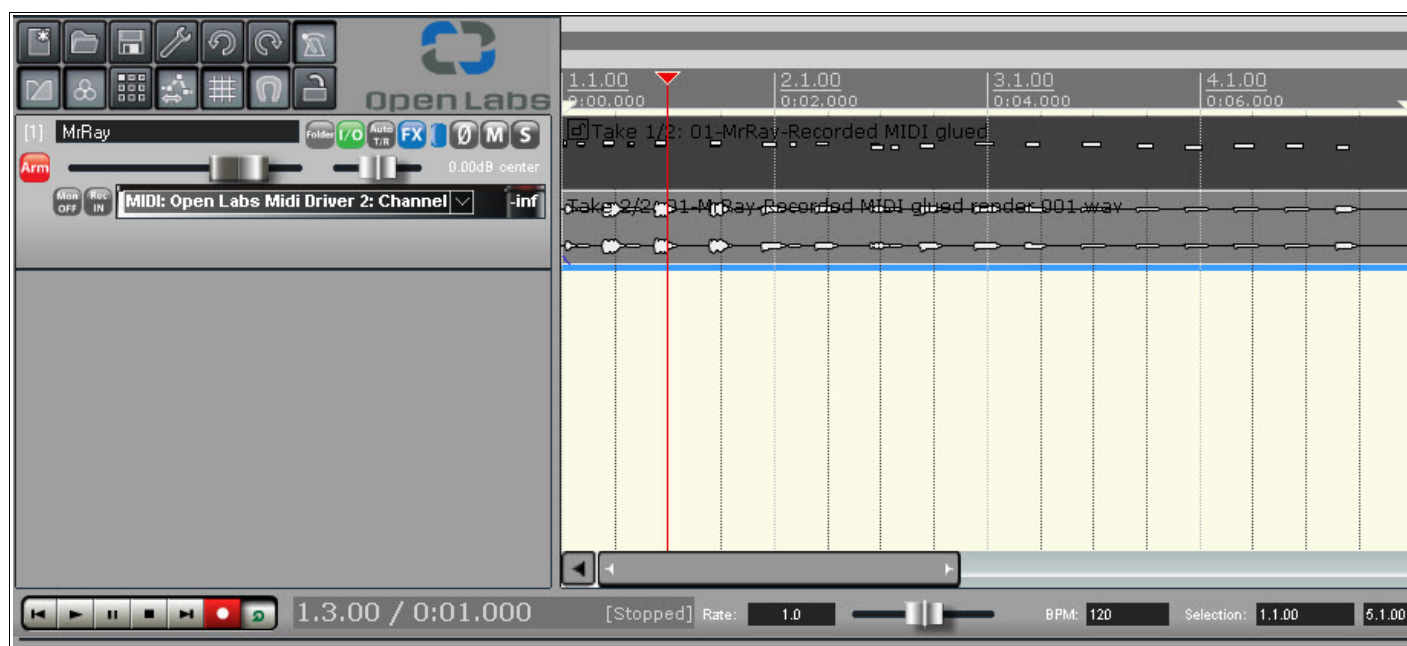
If the audio is what you want, right-click the audio portion of the event and select "glue selected items".
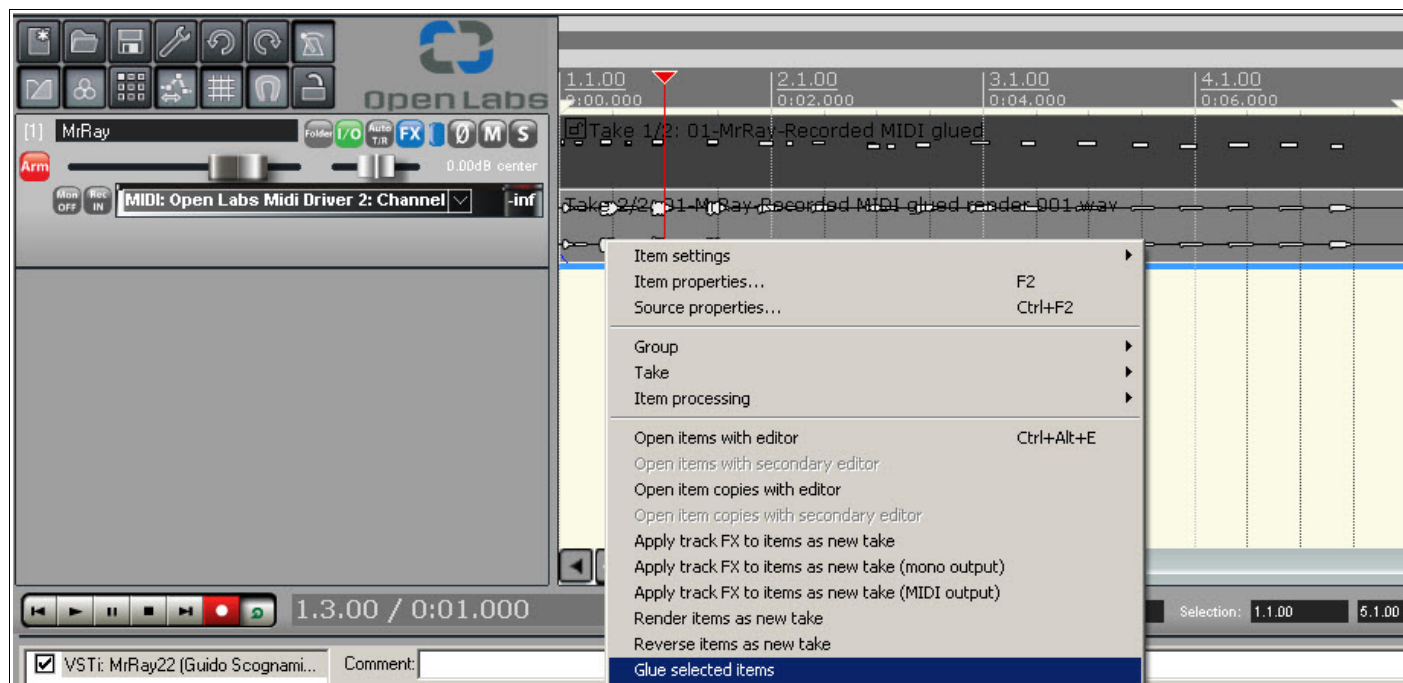
This is the finished event. MIDI has been converted to a stereo audio track.
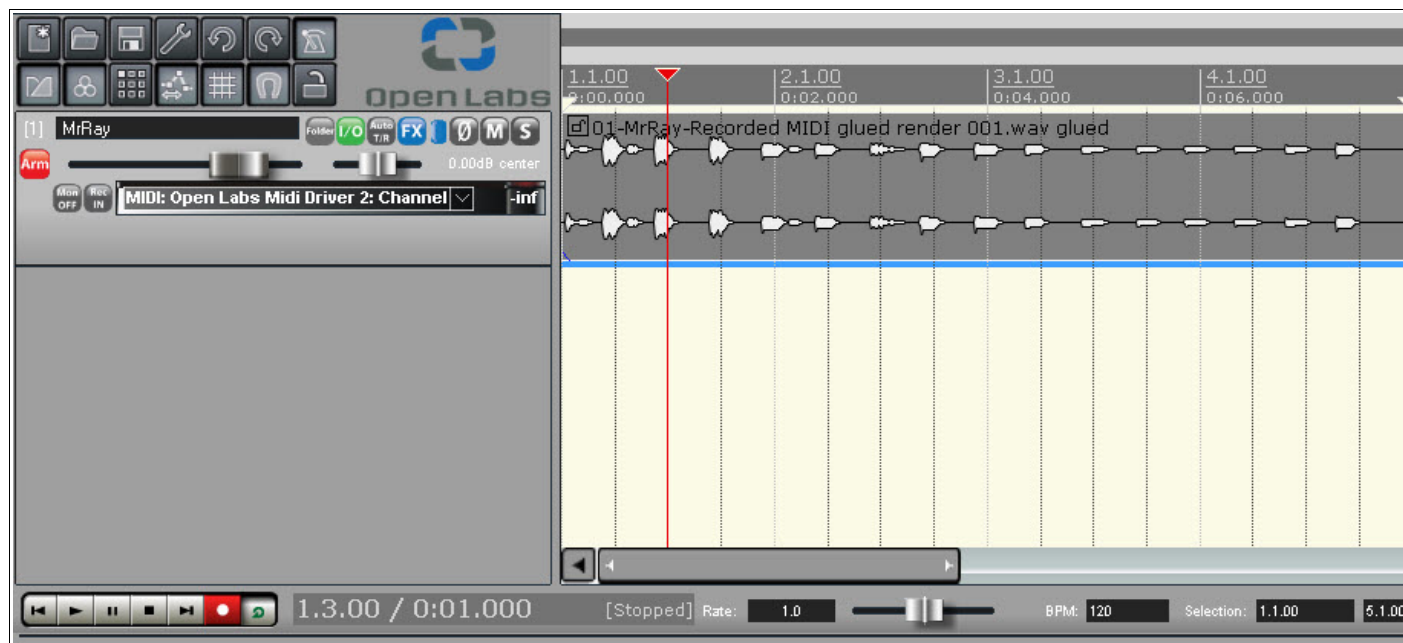
You can export this as a track stem to be used in another program. To do so, go to File>Consolidate/Export tracks.

The following is the **Consolidate Tracks** settings window.
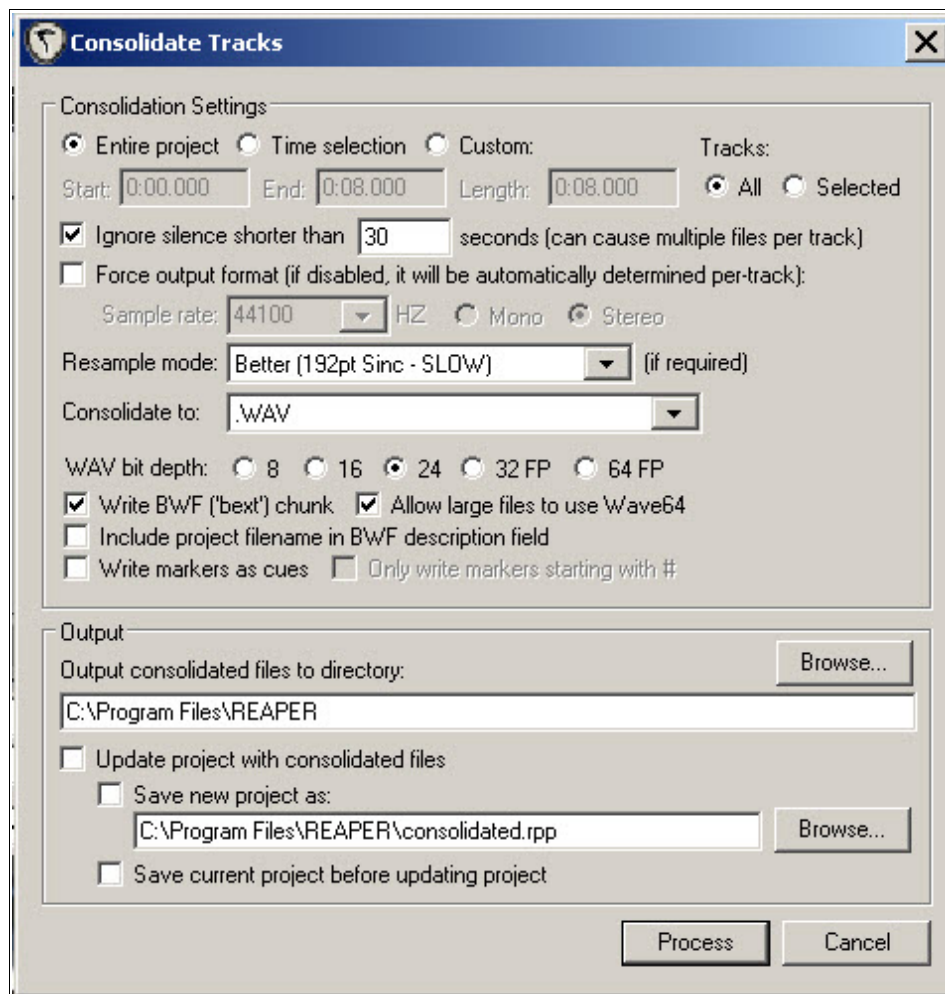
Consolidation settings: This area allows you to determine which area of a track you want to export.

- Entire project: Will export every track of the project, as well as the full length of the project.
- Time selection: If you have a loop range selected, it will only export content within the range.
- Custom: Allows manual input of what is exported.
- Tracks: All – Exports all tracks in the project.
- Tracks: Selected – Exports only the selected tracks. This is good if you want to export Tracks 1, 5, 7, and 14, for instance. Hold down CTRL and left-click each track you want to export.
- Consolidate to: Allows you to choose the format of the exported track.
- .WAV bit depth: Make sure the program you are exporting to can handle the bit depth you choose. Some programs can only handle up to 32 bit.

Output settings: This area allows you to choose the directory or folder you want the exported audio to go to.

For more information on consolidation, please refer to the REAPER PDF user guide.

To learn more about the power of REAPER, please read the REAPER PDF users guide.

Also, visit (http://www.REAPER.fm), and visit the REAPER online Wikipedia, (http://www.cockos.com/wiki/index.php/Main_Page).

C h a p t e r   8   –   M i m i K   U s e r s   G u i d e

What is MimiK?

MimiK is a program designed to sample your MIDI-capable keyboards and hardware. It can be set up to automatically record all the sounds on your favorite hardware for use on your Open Labs production station. The basic algorithm behind MimiK is that it will send MIDI messages for every note on the target keyboard you want to sample.

At the same time it will record each note played back by the keyboard. It has the ability to capture different note lengths, velocities, note ranges, note off samples and much more. After it has recorded/sampled all the notes of a preset, it will store a special file that can be read by a SFZ sample player. Each sample is stored separately as a WAV or OGG file on the MimiK machine.

MimiK Suggested Usage

Due to the amount of time it takes to correctly mimic one sound well, we recommend sampling each preset one at a time. You can mimic batches of presets or entire banks, but the time and disk space required can be inhibiting.

Straight forward sounds like pianos, drums, and basses have a pretty simple architectural structure. This makes it very easy to mimic an entire bank at once. Performance banks and custom patches may have nuances that really need to be dialed in, therefore increasing the time and disc space required. There are a number of ways to reproduce a custom or performance patch.

For instance, some performance patches are made up of multiple sounds. Instead of MimiKing the performance patch, MimiKeach sound that is in that performance patch. Then blend them all back together in your host. This will allow you to really dial a sound in.

It is also a good thing to write down key settings of the original sound effects settings, ADSHR and envelope settings.

What is a Preset and a Bank?

In this documentation the terms "preset" and "bank" will be used frequently. A preset is one complete unique sound. A bank is a collection of presets.

SFZ Format

MimiK uses the open SFZ format for storing sample libraries. The SFZ format is very simple. Every preset captured by MimiK will have a matching SFZ file (.sfz). This SFZ file is a human readable text file that can be opened and edited in Notepad or Microsoft Word. The SFZ file is a list of all the samples that are in the library. Each sample is either a WAV or OGG file. The SFZ file also contains information about each sample, such as what note the sample is and things of that nature. SFZ files can be opened up with the free SFZ sample player (Dimension LE).

How to Physically Set Up MimiK

Wiring Diagram

The following image shows you a basic wiring diagram.

Turn on the keyboard you want to mimic. You will need a standard MIDI cable and one or two ¼-inch audio cables (One audio cable if you want to record in mono, two for stereo).

Now plug in one end of a standard MIDI cable from the "MIDI out" port of your Open Labs production station. The port is clearly marked on the back of the unit. Plug the other end of the MIDI cable into the "MIDI in" port of the keyboard or module you want to mimic.

Next, obtain one or two ¼-inch audio patch cables. Plug one end into the audio output(s) of the keyboard you want to mimic. Then plug in the other end to audio input one (and two if you are recording a stereo keyboard) of the Open Labs production station.

Now we need to test if cables have been correctly hooked up.

Make sure the Open Labs production station is hooked up to a set of speakers or that you have a pair of headphones plugged into the headphone jack. You will use these to monitor the sounds coming from the keyboard you are cloning.

Setting up MimiK

If the Open Labs production station is not turned on, do so now. Shut down all other programs that are running. Other programs may interfere with the recording process. Launch MimiK. The main window should appear. Click on the Options button.
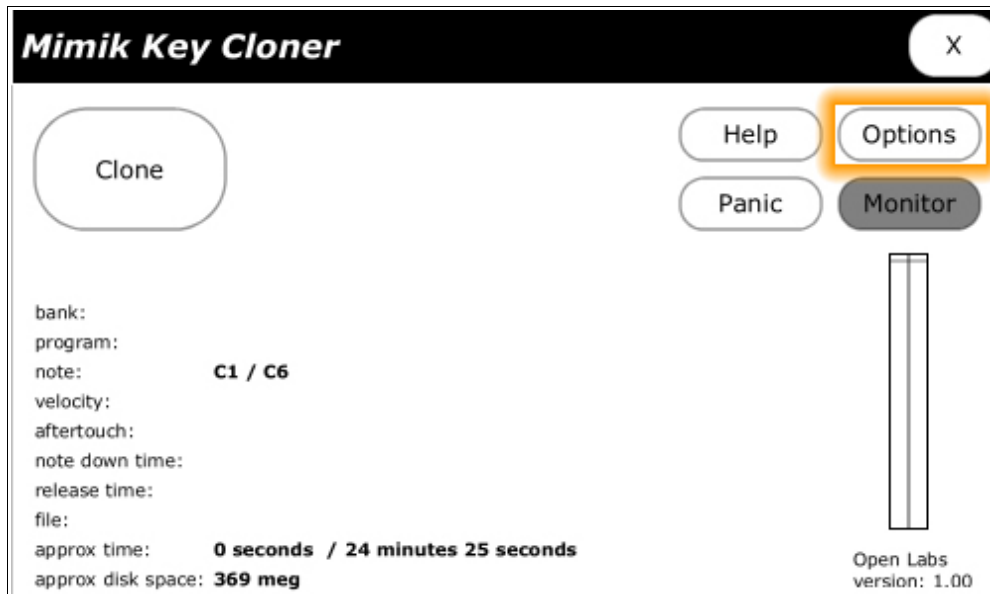
The options dialog will appear
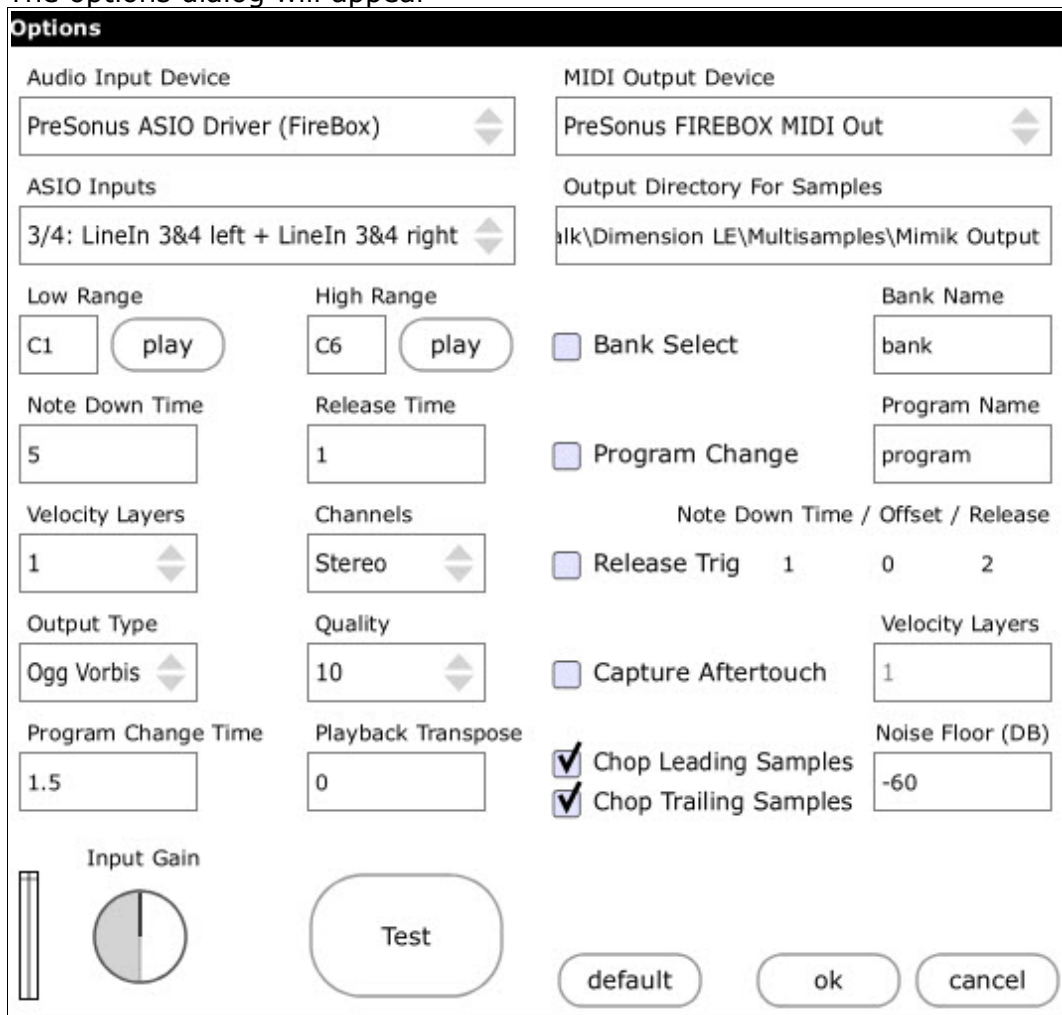
Make sure that the correct Audio Input Device is chosen.

Make sure you are plugged into the correct ASIO input.

Here are the available ASIO inputs for the NeKo LX5.

Make sure the correct MIDI Output Device is chosen.

For most users it will be the PreSonus Firebox MIDI Out. This will be the default MIDI device driver for your installed MIDI output device, but it can be any MIDI output device you have installed.

This is the default Output Directory for the samples.

The default save path is "*C:\Program Files\Cakewalk\Dimension LE\Multisamples\MImik Output*".

MimiK Features Guide

Mimik Key Cloner [X]

Clone

Help   Options
Panic   Monitor

bank:
program:
note: **C1 / C6**
velocity:
aftertouch:
note down time:
release time:
file:
approx time: **0 seconds / 24 minutes 25 seconds**
approx disk space: **369 meg**

Open Labs
version: 1.00
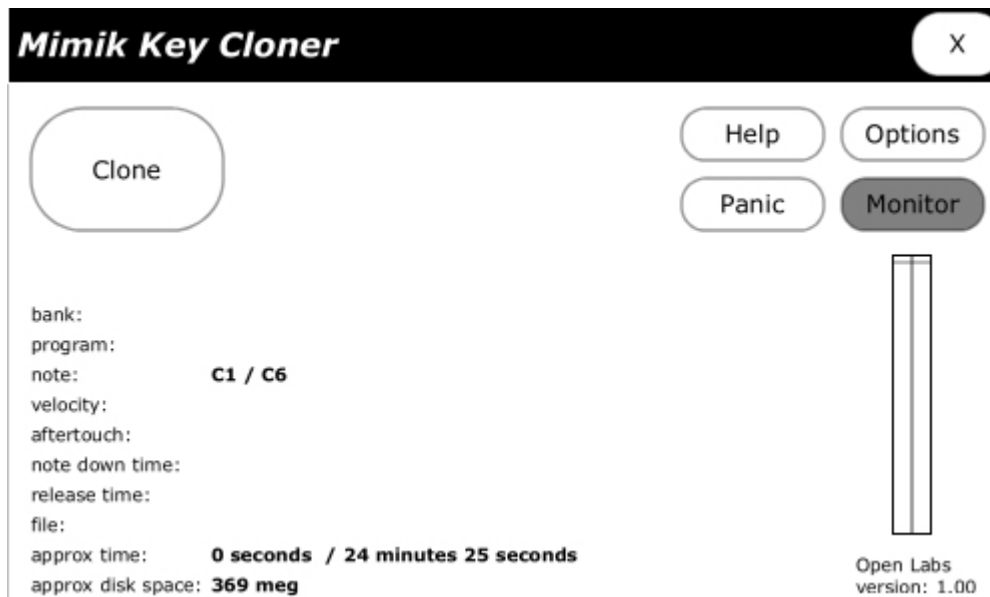
Options: Launches the Options dialog window.

Panic Button: Sometimes keyboards drop note off MIDI messages. You'll know when that happens because you'll get a stuck note. The Panic button sends a "note all off" message to the keyboard. This should get rid of any stuck notes.

Monitor Button: By default this is on. When highlighted, all audio input will be routed to the audio outputs of the Open Labs production station. This is useful when you want to hear the progress of the MimiK process.

MimiK Button: Starts the MimiK process. The MimiK process basically consists of sending MIDI notes for each key on the keyboard for a specified period of time and recording the output. This process can be paused or stopped at any time.

Options Window

Defaults Button: Resets all the options to the original defaults.

Program Change Time: Time (in seconds) that a program change will take. If the current program is being sampled then this is irrelevant. Some keyboards have notoriously long program/preset change times.

ASIO Inputs Device: Exposes which ASIO audio input device is used.

ASIO Inputs: Exposes which inputs on the ASIO audio input device are used to record.

MIDI Output Device: Exposes which MIDI output device is used.

Output Directory: Defines the output directory that all the samples are stored in. To pick another output directory, click on this text box to bring up a directory picker dialog.

Low Range and High Range: Defines what MIDI messages will be sent from MimiK to the keyboard. These notes are inclusive. You may either drag up or down to raise or lower each range. Or you may type in a valid note. Click on the play button beside each range to send a test MIDI message to the keyboard.

Note Down Time: Defines the time in seconds that each velocity layer of each note is sampled. The longer the note down time the better. The trade off is in how much disk space is used and how long it

takes to MimiK a preset. You will need to experiment with each preset to see what works best.

Release Time: Defines the time that MimiK will continue recording output from the keyboard after a Note Off MIDI message is sent. This is useful for capturing the decay/release of a sound after a note has been released. Some sounds have long decays (sounds with lots of reverb) so you may want to adjust depending upon the preset.

Velocity Layers: Choose how many velocity layers to MimiK. If "1" velocity layer is chosen, then each note will be sampled once as if it was hit at full strength (a velocity of 127). If "2" velocity layers are chosen then two velocities are recorded (63 and 127), and so on. Keep in mind that most keyboards don't actually playback that many different sounds per velocity. Volume attenuation is used, but the actual sound played back is usually the same. We recommend using 1, 2, or 4 velocity layers for most keyboards.

Channels: You can decide whether you want to capture a mono or stereo sound. If you choose to capture a mono sound, the left input will be used. This can cut the amount of disk space in half. This option makes the most sense when cloning keyboards only capable of creating mono output.

Output Type: You can decide whether you want to capture a mono or stereo sound. If you choose to capture a mono sound, the left input will be used. This can cut the amount of disk space in half. This option makes the most sense when Cloning keyboards only capable of creating mono output.

WAV Bit Depth: Defines how many bits are used for each sample (CDs are 16-bit). The higher the better. The higher the bitrate, the more disk space used.

Quality: When the OGG/Vorbis format is used, the quality of the output files can be edited. The higher the quality, the better sounding the sample will sound. Keep in mind that higher quality settings will also create larger files.

Quality 0 is roughly equivalent to 64kbps on average, 5 is roughly 160kbps, and 10 gives about 400kbps. Most people seeking very-near CD-quality audio encode at a quality of 5 or, for lossless stereo coupling, 6. The default setting is quality 3, which at approximately 110kbps gives a smaller file size and significantly better fidelity than .mp3 compression at 128kbps.

The default setting of 3 seems to work for many sounds.

As always, if you need CD-quality sound use the WAV output type.

Test Button: The Test button is extremely useful. It will behave exactly like the "MimiK" button on the main window, except that nothing is recorded to disk. Therefore you can hear a preview of what MimiK will actually do once you hit the "MimiK" button. The test can be canceled at any time. Playback Transpose: This value is In octaves. It specifies the amount of transposing that happens when the samples are played back. Really this just shifts what keys will trigger the samples. It will have no effect on the actual sound. Take for example, you sample a few of the lower octaves from a keyboard (C0 - C2). For some reason you want to play them back with your right hand. This option will let you shift the keys that will play back the samples, up a few octaves if necessary (maybe C5-C7). Experiment to see.

VU Meter: Audio input VU meter. It mirrors the VU on the main window.
Input Gain: Some keyboards can be a bit soft or loud. Adjusting this will allow for keyboards with different levels of output.

Bank Select: When this is NOT selected, you can type in the name of the Bank you will be recording It will be left up to you to manually (on the keyboard) pick the bank you want to sample from.

If Bank Select is selected, you will be allowed to select an inclusive range of banks that MimiK will attempt to capture. Warning: many keyboards do not support the General MIDI Bank Select command, so running this may or not work. It is recommended that you test if your Keyboard even has more than one bank. If it does, then check if it even supports Bank Select via MIDI. Due to the amount of time it takes to sample one preset we recommend not using the Bank Select option even if your keyboard supports it. Sampling one bank at a time is what we recommend over attempting to sample multiple banks. Regardless the option is there.

Program Change: When this is NOT selected you can type in the name of the preset you will be recording. It will be left up to you to manually (on the keyboard) pick the preset you want to sample from. If Program Change is selected then you will be allowed to select an inclusive range of programs that MimiK will attempt to capture.

Release Trig: ***This setting will record a separate sample!!!***

Short for Release Trigger.

Some keyboards trigger sound/samples upon the MIDI note off message. Enabling this option will enable MimiK to capture just the sounds made after the MIDI note off is sent. Sounds captured this way can then be played back whenever a note off is sent for a particular sample.

The Note Down Time parameter is the time that a note will be played. During this time period no sound is actually recorded! The recording will begin once the note is let up (MIDI note off message is sent).

The Offset parameter is any additional time to NOT record after the MIDI note off message is sent. This is useful for tweaking and isolating a specific part of the sound.

The Release parameter is how long to record after the note off is sent plus the Offset time. This is the only time actual recording takes place within the Release Trig event.

Capture Aftertouch: If your keyboard supports it, aftertouch can be captured separately from regular note down events. To keep things simple it sends an aftertouch message immediately after the note down is sent. All the other parameters (note down time, release time) apply. Different aftertouch layers can be captured. If "1" layer is selected, then an aftertouch value of 127 is sent and recorded. If "2" layers are used, then an aftertouch value of 63 and 127 are sent and recorded, and so on.

Chop Leading Samples: Anything below the noise floor is chopped off at the beginning of the sample. There is a slight delay in the time that the MIDI information is sent by the Open Labs production station and when the keyboard output sound is recorded by MimiK. This delay can be noticeable, so this option is useful in removing it.

Chop Trailing Samples: Anything below the noise floor is chopped off from the end of the sample. This can be a disk space saver for sounds that end before the note down and release time expire.

Noise Floor: Floating point noise floor for Chop Leading Samples and Chop Trailing Samples. Anything below this noise floor will be cut out of the samples.

MimiK Tutorial (Quick Start)

Click on the Play button under the Low Range label. This will cause MimiK to send a MIDI note to the keyboard. This should in turn cause the keyboard play a note back to the Open Labs production station. If you do NOT hear a note played back from the Open Labs production station or see the VU meter light up in the options screen then:

1. Move the Low Range note around (up or down). Your keyboard may only play back from a small note range. Dragging up or down on the control will move the note range up and down. Do the same for the High Range.
2. Recheck all your cables. Check for possible bad cables.
3. Make sure the keyboard you are trying to mimic has its MIDI input enabled (read the keyboard manual). If you plan on MimiKing multiple sounds from multple banks, make sure your MIDI keyboard or module has MIDI bank select enabled, and MIDI program change selected.

If you hear a note and see the VU meter lighting up when you hit the play button, then you are ready to pick what you want to sample from your keyboard.

How to Playback a Sound after using MimiK

To play back sounds that have been made in Mimik, Open Labs has provided you with the sample player Dimension LE.

Load Dimension LE into either Riff or Reaper.

Once you load up an instance of Dimension LE, you will need to browse to the folder where the default Mimik folder is located. If you setup Mimik to output to another location just select that folder instead.

Click in the "Empty" slot to bring up the browse window.
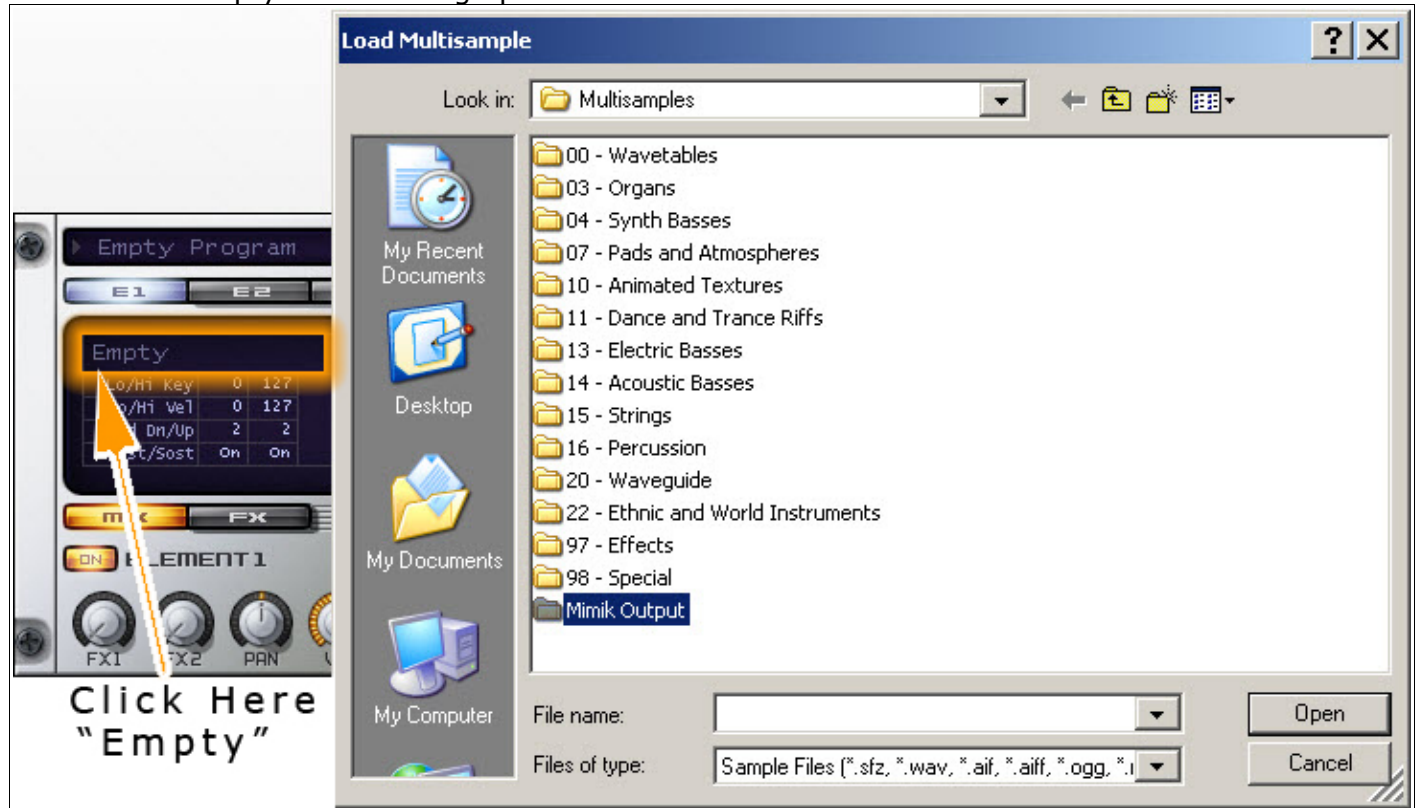
Select the folder "Mimik Output" and explore the folder until you find the ".*sfz*" file. Select the ".*sfz*" file and press the [Open] button.

The test file made for this lesson was called "Grand Piano". You can see "*Grand Piano.sfz*" loaded into Dimension LE.

This sound is ready to be played.

To learn more about Dimension LE, please read the Dimension users guide located on the NeKo LX5.

Chapter 9 – System Restore, Backup

Open Labs has provided you with a hidden backup partition, this hidden partition contains a "factory image" of the NeKo LX5. The software used to manage restoration is called "True Image". This software also allows you to create backup images of your system that can be stored to an internal hard drive or external storage media.

If you encounter an issue so severe you think that you need to restore, we suggest that you first contact Open Labs technical support, as we may have a solution that will save your data. Also, restoring without consulting technical support could effect your warranty, so please heed this message.

- **Email support@openlabs.com**
- **Call 512.444.6222**

If you have experience with restoration software, the next few parts of this manual will give you some information about True Image.

Before You Begin
Before you begin performing any system restoration, it is important that you do the following things:

- If you have added additional hardware that differs from what was originally configured for your NeKo, please remove or detach the device.
- If your system is stable enough for data backup, please do a full system backup of your data files. In many recovery scenarios, the hard drive will be erased and any unsaved data will be lost.
- Connect an external monitor, mouse and keyboard to your NeKo. Some of the input devices on the NeKo may not be fully functional till the core of the system files has been restored.
- Ensure that your NeKo is near a phone and Internet connectivity in the event you need to call Open Labs for support.
- Have all disks available in the event you need to use them.

The True Image software can be found by exiting the Open Labs shell, then clicking on the Start Menu icon. (Start Menu>Program Files>Acronis>Acronis True Image>*Acronis True Image*)

10

C h a p t e r   1 0   –   H a r d w a r e
M a i n t e n a n c e

Please Read

If you have never worked with the interior components of a computer, please read this chapter carefully, and consult Open Labs for assistance. Most of the components are delicate and are sensitive to rough handling, static electricity and magnetic fields. Practice these precautions before proceeding with hardware work:

- Do not work on hardware with the Open Labs Production Station plugged in.
- Always work on your Open Labs Production Station on a flat table-top and not on the carpet or floor.
- Do not use excessive force on any components within the case.
- Keep all hardware in anti-static bags until installed.
- Avoid moisture and wet surfaces.
- When in doubt, consult technical support.

New Hardware Installation Considerations

If you wish to add more onboard memory, hard disk storage, or additional PCI boards you will need to upgrade your Open Labs Production Station. When adding new hardware, the following considerations should be made:

- All hardware should be in the Microsoft Hardware Compatibility List for Microsoft Windows XP. If it is not, then you risk the chance of device or system malfunction, or system corruption, which may require system recovery.
- Your hardware should comply with the motherboard specifications. For example, use only DDR2 memory when you wish to upgrade onboard memory. If you do not use the correct memory for your system, you will experience instability and perhaps even data corruption. Ideally all memory should be from the same manufacturer and of the same speed and type. Motherboard specification for other onboard devices can be found in the motherboard manuals provided or from download.
- Additional hardware should not over cramp other components. It is not recommended that you overload your Open Labs Production Station with too many internal devices. This can cause too much heat output. For example, connecting 4 IDE hard drives, plus 4 SATA drives would be a bad idea. Too much heat will cause hardware to fail.
- Air flow should be optimized by securing all loose cables with recommended cable-ties, or using rubber-insulated ribbons. Ensure that no cables are brushing up against moving fans.

Opening your Open Labs Production Station

Before opening your Open Labs Production station, please consult with an Open Labs Technician. Failing to to do so may void your warranty. To speak with a tech please email support@openlabs.com or call 512.444.6222.

A p p e n d i x   A   P r o   A u d i o   P r i m e r

The following glossary will help you to understand some of the more common terms found in the digital audio workstation world. Also, be sure to check out some of the following online resources:

- Open Labs User Forums – http://forum.openlabs.com
- Modern Recording Techniques – http://www.modrec.com
- Wikipedia – http://en.wikipedia.org/wiki/Professional_audio
- Wikiaudio – http://www.wikiaudio.org
- Audio Engineering Society – http://www.aes.org
- Recording.org – http://recording.org/index.php

Open Labs Pro Audio Primer

ASIO
(Audio Stream Input/Output), developed by Steinberg, is a cross-platform, multi-channel audio transfer protocol that is being adopted by many of the manufacturers of audio/MIDI sequencing applications. It allows software to have access to the multi-channel capabilities of a wide range of powerful sound cards. ASIO expands on the basic capabilities of a standard computer sound card, most of which can only provide stereo (two-channel) audio input and output. The ASIO specification defines the interface that manufacturers of professional audio sound cards must use to create an ASIO driver for their hardware. This driver allows the host audio/MIDI application to "see" all of the inputs and outputs available on the sound card. The user can then assign these I/O ports as needed for recording or playback when using an ASIO-compatible software program. This allows the users to record more tracks simultaneously than the previous limitation of two channels imposed by a standard sound card.

ATTACK
The initial transient or first part of the envelope of a signal. The beginning of a note. Also, see *Release.*

AUDIO
Of, pertaining to, or employed in the transmission, reception, or reproduction of sound.

AUDIO EFFECT
A special type of plug-in that accepts an audio stream and produces a new audio stream. Examples include compressors, distortion and reverb.

AUDIO EFFECT CHAIN
A collection of plug-ins that start with an audio input, then goes through a chain of optional audio effects before going out to an audio bus.

BALANCED LINE
A cable having two conductors and a ground connection and often surrounded by a shield. These lines are often used in professional settings to reduce or eliminate induced noise and interference from external electromagnetic sources.

BANK
A collection of Presets that are loaded into memory for easy access and low load time.

BITRATE
In digital multimedia, bit rate represents the amount of information, or detail, that is stored per unit of time of a recording. The bit rate depends on several factors:

1. The samples may use different numbers of bits.
2. The original material may be sampled at different frequencies.
3. The data may be encoded by different schemes.
4. The information may be digitally compressed by different algorithms or to different degrees.

Generally, choices are made about the above factors in order to achieve the desired trade-off between minimizing the bit rate and maximizing the quality of the material when it is played.

If lossy data compression is used on audio or visual data, differences from the original signal will be introduced; if the compression is substantial, or lossy data is decompressed and recompressed, this may become noticeable in the form of compression artifacts. Whether these affect the perceived quality, and if so how much, depends on the compression scheme, encoder power, the characteristics of the input data, the listener's perceptions, the listener's familiarity with artifacts, and the listening or viewing environment.
Experts and audiophiles may detect artifacts in many cases in which the average listener would not. Some musicians enjoy the distinct artifacts of low bit rate (sub-FM quality) encoding and there is a growing scene of net labels distributing stylized low bit music.

The bit rates in this section are approximately the minimum that the average listener in a typical listening or viewing environment, when using the best available compression, would perceive as not significantly worse than the reference standard:

- Audio (MP3)
    - 4 - kbit/s - minimum necessary for recognizable speech (using special-purpose speech codecs)
    - 8 - kbit/s - telephone quality
    - 32 - kbit/s - MW (AM) quality
    - 96 - kbit/s - FM quality
    - 128 - kbit/s - Typical "acceptable" music quality
    - 256 - 320 kbit/s - Near audio CD quality
- Video (MPEG2)
    - 16 kbit/s - videophone quality (minimum necessary for a consumer-acceptable "talking head" picture)
    - 128 - 384 kbit/s - business-oriented videoconferencing system quality
    - 1 Mbit/s - VHS quality
    - 5 Mbit/s - DVD quality
    - 15 Mbit/s - HDTV quality

CARDIOID MICROPHONE
A common mic pickup pattern designed to attenuate signals arriving 180 degrees off-axis, while fully picking up those sounds that arrive at the front (on-axis).

CONDENSOR MICROPHONE
A microphone that operates on an electrostatic principle rather than on the electromagnetic principle used in dynamic and ribbon mics. These microphones require phantom power, or a +48 volt charge.

CONTROL
A single GUI item that performs a task. Examples include list boxes, right click menus and ok buttons.

DC OFFSET
A DC Offset is an offset in the baseline, or zero mark of the waveform. A sample wave not centered on the zero baseline in the Waveform Display is said to have a DC Offset. This is usually caused by a calibration problem in the audio hardware. It is desirable to remove this offset after

recording because undesirable pops can occur when editing a file with a large DC offset. To remove DC offset, a number of options are available ranging from applying a Low-Pass Filter to the waveform to using correction features built into most Audio Editors such as Wavelab or Audition. Dedicated DC Offset plug-ins in several formats such as VST and Direct X are also available.

DECIBEL (dB)
A unit of audio measurement of sound-pressure level (SPL), signal level, and changes or differences in signal level. The decibel is a logarithmic (log) mathematical function that reduces large numeric values into smaller, more manageable numbers. Decibel is calculated as being 10 times the log of the ratio of two powers and 20 times the log of the ratio of two voltages.

DESTRUCTIVE EDITING
When the audio data recorded on a hard disk is altered and rewritten to disk in such a way that it can't be recovered in its original form**.**

DIALOG
A window that is not full screen. In this host all Dialog boxes will be modal (meaning they will be the foremost window and nothing else can be done until they are closed).

DYNAMIC MICROPHONE
A microphone that operates by electromagnetic induction to generate an output signal. When an electrically conductive coil of wire or ribbon is made to cut across the flux lines of a magnetic field, a current of specific magnitude and direction is generated within that coil or ribbon.

EFFECTS SEND
An auxiliary send feeding an effects device.

EQUALIZER
A frequency-dependent amplifier that enables a recording or mix engineer to control the relative amplitude of various frequencies in the audible bandwidth. Put another way, the equalizer lets you exercise tonal control over the harmonic content or timbre of a recorded sound.

EXPANDER
A device that increases the dynamic range of a signal.

FADER
A linear attenuation device or linear volume control.

FILE TYPES

   • *WAVE* - **WAV (or WAVE)**, short for Waveform audio format, is a Microsoft and IBM audio file format standard for storing audio on PCs. It is a variant of the RIFF bit stream format method for storing data in "chunks", and thus also close to the IFF and the AIFF format used on Macintosh computers. Both WAVs and AIFFs are compatible with Windows and Macintosh operating systems. It takes into account some differences of the Intel CPU such as little-endian byte order. The RIFF format acts as a "wrapper" for various audio compression codecs. It is the main format used on Windows systems for raw audio.
   • *MIDI* - ***Musical Instrument Digital Interface***, or **MIDI**, is an industry-standard electronic communications protocol that defines each musical note in an electronic musical instrument such as a synthesizer, precisely and concisely, allowing electronic musical instruments and computers to exchange data, or "talk", with each other. MIDI does not transmit audio - it simply transmits digital information about a music performance.
   • *MP3* - **MPEG-1 Audio Layer 3**, more commonly referred to as **MP3**, is a popular digital audio encoding and lossy compression format, designed to greatly reduce the amount of data required to represent audio, yet still sound like a faithful reproduction of the original

uncompressed audio to most listeners. It was invented by a team of European engineers who worked in the framework of the EUREKA 147 DAB digital radio research program and finally standardized by ISO/IEC in 1991

- *OGG -* __Ogg__ is a patent-free, fully open multimedia bit stream container format designed for efficient streaming and file compression (storage).The name "Ogg" refers to the file format which includes a number of separate independent open source codecs for audio, video and text (e.g. subtitles). Files ending in the .ogg extension may be of any Ogg media file type, and because the format is free, Ogg's various codecs have been incorporated into a number of different free and commercial media players.

FREQUENCY
The rate at which an acoustic generator, electrical signal, or vibrating mass repeats a cycle of positive+ and negative- going amplitude. The number of cycles that occurs over the period of one second is measured in hertz (Hz). Often, the perceived range of human hearing is from 20 Hz to 18,000 Hz.

GAIN
Amount of amplification in dB.

GUI
A graphical user interface (or GUI, often pronounced "gooey") is a method of interacting with a computer through a metaphor of direct manipulation of graphical images and Virtual Live Controls in addition to text. GUIs display visual elements such as icons, windows and other gadgets. The precursor to GUIs was invented by researchers at the Stanford Research Institute (led by Doug Engelbart) with the development and use of text-based hyper links manipulated with a mouse for the On-Line System. The concept of hyper links was further refined and extended to graphics by researchers at Xerox PARC, who went beyond text-based hyper links and used GUIs as the primary interface for the Xerox Alto computer. Most modern general-purpose GUIs are derived from this system. For this reason some people call this class of interface a PARC User Interface (PUI) (note that PUI is also an acronym for perceptual user interface). The PUI consists of graphical Virtual Live Controls (often provided by Virtual Live Control toolkit libraries) such as windows, menus, radio buttons, check boxes and icons, and employs a pointing device (such as a mouse, trackball or touchscreen) in addition to a keyboard. Those aspects of PUIs can be emphasized by using the alternative acronym WIMP, which stands for Windows, Icons, Menus and Pointing device.

The GUI familiar to most of us today is either the Windows or the Macintosh operating systems and their applications originated at the Xerox Palo Alto Research Laboratory in the late 1970s. Apple used it in their first Macintosh computers. Later, Microsoft built on many of Apple's ideas in their first version of the Windows operating system for IBM-compatible PCs.

HARD DISK RECORDER
A system that uses a computer hard disk to record, edit, and reproduce digital data.

INSTRUMENT
A collection of plug-ins that starts with a MIDI input, then goes through optional MIDI effects, into a soft synth, and then into optional audio effects before going out to an audio bus. An instrument is set up anytime a user wants to play a soft synth.

LATENCY
Latency is the amount of time an application allocates to prepare a buffer full of audio data for playback. Lower latency settings add processing time because of the need to refill the smaller data buffers more often. You may need to increase your applications latency under the following conditions:

- You use lots of real-time effects, and you hear dropouts. Check the CPU meter for high readings; try increasing the latency.
- Your sound card does not function well at lower latency. Some sound cards just do not function well at lower latency settings.
- Even if your application reports no problems, if you hear dropouts try increasing the mixing latency.

LIMITER
A device used to keep signal peaks from exceeding a certain level in order to prevent the clipping or distortion of amplifier signals, recorded signals on tape or disc, broadcast transmission signals, and so on.

LINE LEVEL
A signal level that is referenced to either 4 dBm (pro) or -10 dBV (semi-pro/consumer). Devices other than mics, speakers, and power-amplifier outputs operate at these levels.

MASTERING
The processing and transferring of a final, sequenced audio tape to a medium for duplication.

MFUSION
Open Labs mFusion software unifies multiple MIDI interfaces, MIDI keyboards, and MIDI controllers into a single MIDI control panel for assigning MIDI channels, providing keyboard splits, assigning MIDI controllers, and setting other parameters for incoming MIDI data. In mFusion this is all called mapping. Keyboards and other controls may be mapped from one type of MIDI data to another, or mapped to other functions such as keystroke shortcuts, application launching, or even changing the mapping of another MIDI controller. All of the MIDI data mapped by mFusion is unified into a "virtual" MIDI port so that any music application may receive data from all attached MIDI controllers through one single MIDI port. The individual MIDI ports from each device remain available, however, for maximum flexibility.

MIDI
Musical Instrument Digital Interface, or MIDI, is an industry-standard electronic communications protocol that defines each musical note in an electronic musical instrument such as a synthesizer, precisely and concisely, allowing electronic musical instruments and computers to exchange data, or "talk", with each other. MIDI does not transmit audio - it simply transmits digital information about a music performance.

MIDI CC
Short for "MIDI Continuous Controller", a specific kind of MIDI message. The modulation wheel of your synth, for example, sends out "MIDI Continuous Controller 1", or CC#1. Likewise, Volume is CC#7, GLIDE - Portamento Time is CC#5.

MIDI CHANNEL
A discrete portion of the complete MIDI signal that can include as many as 16 channels. Each channel carries independent messages; individual instruments tune in to these, just as a television tunes in to one of many channels. Instruments that can respond to multiple channels at once are called multi-timbral.

MIDI EFFECT
A special type of plug-in that accepts an MIDI stream and produces a new MIDI stream. Examples include arpeggiators, note repeat, chorders and MIDI echo.

MIDI HOST
A MIDI Host is an application that allows you to use virtual effects and instruments (plug-ins). They can be basic programs used to audition plug-in effects and instruments right up to a complex

multitrack recording environment for audio and MIDI.

MIDI SEQUENCING
In the field of electronic music, a sequencer was originally any device that recorded and played back a sequence of control information for an electronic musical instrument. Nowadays, the term almost always refers to the feature of recording software which allows the user to record, play back and edit MIDI data. This is distinct from the software features which record audio data. Early analog music sequencers used control voltage/trigger interface, but were replaced by digital hardware- or software-based MIDI sequencers, which play back MIDI events and MIDI control information at a specified number of beats per minute.

MONOPHONIC
Of or noting a system of sound recording, reproduction, or musical instrument using only a single channel.

Multi-timbral
The capability of an electronic musical instrument to respond to and output multiple voice patches at one time.

MULTITRACK RECORDING
Multitrack recording ('multitracking' or just 'tracking' for short) is a method of sound recording that allows for the separate recording of multiple sound sources to create a cohesive whole. This is the most common method of recording popular music.
Multitracking can be achieved with hard disk based systems like an Open Labs production station, often employing a computer and multitrack audio recording software. Multitrack recording devices vary in their specifications, such as the number of simultaneous tracks available for recording at any one time; in the case of tape based systems this is limited by, among other factors, the physical size of the tape employed. For computer based systems the trend is towards unlimited numbers of record/playback tracks, although issues such as memory and CPU available will in fact limit this from machine to machine. It has to be noted that on computer based systems, the number of simultaneously available recording tracks is limited by the sound card discrete analogue or digital inputs.
When recording, audio engineers can select which track (or tracks) on the device will be used for each instrument.

At any given point on the tape, any of the tracks on the recording device can be recorded or playing back, so that an artist is able to record onto track 2 and, simultaneously, listen to track 1, allowing him to sing or to play an accompaniment to the performance already recorded on track 1. He might then record on track 3 while listening to track 2. All three performances can then be played back in perfect synchrony, as if they had originally been played and recorded together. This can be repeated until all of the available tracks have been used, or in fact, reused.
When recording is completed, the many tracks are "mixed down" through a mixing console to a two-track stereo recorder in a format which can then be duplicated and distributed. Most of the records, CDs and cassettes commercially available in a music store are recordings that were originally recorded on multiple tracks, and then mixed down to stereo. These stereo mixes can in turn be recorded onto two tracks of a four-track recorder, allowing additional sound to be layered on the remaining tracks.

NOISE GATE
A device that acts as an infinite expander, allowing a signal above the selected threshold to be passed through to the output at unity gain and without dynamic processing. When the input signal falls below this threshold level, the device effectively shuts down the signal by applying full attenuation to the output.

NON-DESTRUCTIVE EDITING

Editing a hard-disk sound file by moving pointers, without altering in any way the digital audio data originally recorded to disk.

NORMALIZING
A specialized gain-related process that makes the best use of a digital system's dynamic range by automatically determining the amount of gain required to increase the level of the highest amplitude signal to its full-scale amplitude value, and then increasing the level of the selected region or entire file by this gain ratio.

OCTAVE
The most basic musical interval, and the second harmonic of the natural scale, which represents a doubling of frequency.
The diatonic scales in the western harmonic system have 8 notes to the octave, hence the name. There are 12 semi-tones to an octave and in some middle-eastern scales, 24 quarter-tones.

OMNI-DIRECTIONAL MICROPHONE
A mic that outputs signals received from all incident angles at the same (or nearly equal) level.

OSCILLATOR
In modern musical terms, an oscillator is a component that originates a signal. The period of an oscillator is the time it takes to oscillate, or repeat. The period is also referred to as frequency or pitch. The classic analog synthesizers had regular periodic oscillator shapes such as Sine, Triangle, Pulse, Ramp, and Saw. They also sometimes had a special non-periodic oscillator called noise. Although not technically an oscillator because it does not repeat a pattern, the noise oscillator generates semi-random values within a certain frequency.

PHANTOM POWER
Power for a condenser mic that comes directly from the console through balanced mic cables by supplying a positive DC supply voltage of 48V (usually) to both conductors (pins 2 & 3) with respect to pin 1. This voltage is distributed through identical value resistors so that no differential exists between the two leads; therefore, the voltage is electrically invisible to the alternating audio signal. The DC circuit is completed by connecting the negative side of the supply to the cable's grounding shield.

PLUG-IN
Plug-ins are audio processing modules. They are usually of the VST or DX format. They are usually third party external DLLs that will usually take an input stream and produce output streams. In the case of music software this generally takes the form of an instrument, such as a synth or sampler, or an effect processor, such as a reverb or compressor.

POLAR PATTERN
A polar graph of the sensitivity of a microphone at all angles of sound incidence relative to the sensitivity on-axis.

POLYPHONIC
The capability of an electronic musical instrument to output multiple notes at one time.

PRESET
A collection of Instruments and/or Audio Effect chains with unique settings for each plugin in the preset.

PRESET GROUP
User defined group of Presets contained within a Bank.

PUNCH-IN PUNCH-OUT

The entering into and out of record mode on a track that contains existing program material for the purpose of correcting or erasing an unwanted segment.

QUANTIZATION
The amplitude component of the digital sampling process. In an A/D converter, the process of generating a binary number (made of 1s and Os) that represents the voltage of the analog waveform at the instant it is measured or sampled.

RELEASE
The final portion of a note's envelope, which falls from the sustain signal level to silence.

SAMPLE RATE
Level of accuracy with which audio data is stored. The higher the better the sound quality, but the more costly in computer time and memory.
In digital audio, common sampling rates are:

- 8,000 Hz - telephone, adequate for human speech
- 22,050 Hz - radio
- 32,000 Hz - miniDV digital video camcorder
- 44,100 Hz - audio CD, also most commonly used with MPEG-1 audio (VCD, SVCD, MP3)
- 47,250 Hz - world's first commercial PCM sound recorder by Nippon Columbia (Denon)
- 48,000 Hz - digital sound used for digital TV, DVD, DAT, films and professional audio
- 50,000 Hz - first commercial digital audio recorders from the late 70's from 3M and Soundstream
- 50,400 Hz - sampling rate used by the Mitsubishi X-80 digital audio recorder
- 96,000 or 192,400 Hz - DVD-Audio, some LPCM DVD tracks, BD-ROM (Blu-ray Disc) audio tracks, and HD-DVD (High-Definition DVD) audio tracks
- 2.8224 MHz - SACD, 1-bit sigma-delta modulation process known as Direct Stream Digital, co-developed by Sony and Philips

SEQUENCING
MIDI Sequencer - In the field of electronic music, a sequencer was originally any device that recorded and played back a sequence of control information for an electronic musical instrument. Nowadays, the term almost always refers to the feature of recording software which allows the user to record, play back and edit MIDI data. This is distinct from the software features which record audio data. Early analog music sequencers used control voltage/trigger interface, but were replaced by digital hardware- or software-based MIDI sequencers, which play back MIDI events and MIDI control information at a specified number of beats per minute.

SMPTE TIME CODE/MTC MIDI TIME CODE
Time codes contains binary coded decimal hour:minute:second:frame identification and 32 bits for use by users. There are also drop-frame and color framing flags and three extra 'binary group flag' bits used for defining the use of the user bits. The formats of other forms SMPTE timecodes are derived from that of the longitudinal timecode.

Time code can have any of a number of frame rates: common ones are:

- 24 frame/s (film)
- 25 frame/s (PAL color television)
- 29.97 (30/1.001) frame/s (NTSC color television)
- 30 frame/s (American black-and-white television) (almost obsolete)

In general, SMPTE timecode frame rate information is implicit, known from the rate of arrival of the timecode from the medium, or other metadata encoded in the medium. The interpretation of several bits, including the "color framing" and "drop frame" bits, depends on the underlying data

rate. In particular, the drop frame bit is only valid for a nominal frame rate of 30 frame/s: see below for details. SMPTE/MTC is a position and timing reference that indicates the current location in the project and how quickly the project should be playing. Time code labels the position in a project in hours, minutes, seconds, and frames. The speed of playback is indicated by a frame rate. Time code is recorded onto tape using a device called a time code generator. The process of recording a time code signal onto a track is called striping. Normally, the start of a tape stripe has a particular time, expressed in hours, minutes, seconds, and frames. For example, the tape stripe might start at 00:00:00:00, 01:00:00:00, or any other time. The material recorded on the tape usually starts anywhere from 10 seconds to several minutes after the start of the time code. Sometimes, the tape stripe starts at a time like 00:59:50:00, and the material starts 10 seconds later, at 01:00:00:00.

SOFT SYNTH
A soft synth, also known as a software synthesizer or virtual instrument is a computer program for digital audio generation. Computer software which can create sounds or music can accomplish the same tasks as dedicated hardware. Softsynths can be cheaper and more portable than dedicated hardware, and easier to interface with other music software such as MIDI sequencers.

SOLO
A monitor function that lets the engineer hear a single instrument or group of instruments without affecting the studio's headphone monitor mix, recorded tracks, or mixdown signal.

STREAMING
A system for transmitting audio and/or data through a transmission media (such as the web) in real-time.

SUSTAIN
In a traditional envelope, the level at which an enveloped setting remains after the Attack and Decay stages until the key is released.

SYNC
The locking of relative transport or playback speeds of various devices to allow them to work together as a single, integrated system.

TRANSPOSE
To write or perform (a composition) in a key other than the original or given key.

UNBALANCED LINE
A cable having only one conductor plus a surrounding shield, in which the shield is at ground potential. The conductor and the shield carry the signal.

VST/VSTi
Virtual Studio Technology: Its acronym VST refers to an interface standard for connecting audio synthesizer and effect plug-ins to audio editors and hard-disk recording systems. VST and similar technologies allow the replacement of traditional recording studio hardware with software counterparts. A VST instrument (or VSTi) is a type of VST plug-in that is generally used to synthesize sound or play-back sampled audio. Types of VST instruments include (among others) virtual synthesizer devices and sampler devices. VST instruments can be played in real-time when used with an appropriate software and hardware configuration.

VSTi LINK
The connection between a plug-in parameter and a physical hardware MIDI control (or a virtual soft control). An example of a link would be when a user moves a hardware MIDI knob and the volume output of a soft synth changes.

WAVEFORM

A usually graphic representation of the shape of a wave that indicates its characteristics (as frequency and amplitude). When talking about synthesizers, the term generally refers to the most common types of waveforms, such as the sine, triangle, sawtooth, and pulse waves. It can also refer to digital waveforms which are rendered from pre-recorded samples.

WORD CLOCK

A word clock is a device used to create a regular pulse used to synchronize other devices, such as digital audio tape machines and compact disc players, which interconnect via digital audio. S/PDIF, AES/EBU, ADAT and other formats use a word clock. A word clock neither produces nor uses timecode; it is used entirely to keep a perfectly-timed and constant bitrate to avoid data errors.

A p p e n d i x   B   -   S o u n d   P r e s e t s

VST Instruments / MIDI FX / VST FX Descriptions

In alphanumeric order.

1175   Mastering EQ; Fast attack Compressor
4Front Auxiter   Mastering   EQ; Exciter/Refresher- Enhancing Vocals, Track Restoration
4Front Contour Max   Mastering   EQ; Frequency Shaper- Use For Final Mastering and Track Restoration
4Front Sand Brush   Mastering   EQ; High Frequency Booster- Track Restoration, Vintage Vinyl-type Effects, Good for Vocals, too
4Front YLimiter   Mastering and EQ; Hard Compressor- Use for Drum/Percussion Tracks and Effects
50HzKicker   Mastering   EQ; Kick drum enhancer
Accordion Accordion Emulator- Acoustic-Klezmer, Polka, Zydeco, Tejano, World- Beirut, Weird Al
Acoustic Bass Synthesizer Acoustic Rock, Pop Any
Amp-model-dual   Amps; Duel Amp Modeler
AmplitudeModulator   Modulation; Amplitude modulator
Artphase-VSTi   Phase Distortion Synth- Lead, Trance, Spacey, Tangerine Dream, Orbital
Auto-Wideness v1.0   Dynamics   EQ; Widener
Autoexpand   Dynamics   EQ; Expander
autopeakfilter   Filter; FFT peak detecting filter
avocado_glitch   Modulation; ducking glitch generator
bandpass   Filters; Band pass filter
BB303i   Classic 303- Bass, Synth- Lead, Bass- House, Techno, Acid- Old Skool Hip-Hop (West Coast), Heaven 17
BCheese   Filters; LFO Driven Filter Set- Good For Synths- Use to create sweeps and other effects
bitred   Bit depth reductiion
Blood Bucket   Synth- Lead, Ambient Sounds- IDM, Glitchcore, Illbient- Kid 606, Venetian Snares
Boss DS-1   Distortion; Distortion Stomp Pedal Simulator- Useful for String Instruments
Boss SD-1   Distortion; Super Overdrive Stomp Pedal Emulator- Creates Over-driven Tube Amp effect. Useful for String Instruments
BUZ   Distortion; Distortion Stomp Box Emulator- Useful for String Instruments
chorus   Filter; Chorus up to eight voices
chorus_stereo   Filter; eight voicesnwith beat sync
Classic Auto-Filter   Filters; Four-pole LFO Modulated Filter- Use to Create Sweeps and Other Strange Effects
Classic Chorus   Filters; Adds Depth To Almost Any Type of Track
Classic Compressor   Mastering; Analog-style compressor- adds warmth and punch to Vocal Tracks
Classic Delay   Delays   Reverbs; Full Featured, Multi-Purpose Delay
Classic Flanger   Filters; Adds Swirling-type effect- Useful for Guitar Type Sounds
Classic Phaser   Filters; Analog Phase Shift Emulator- Many Uses, Sounds Good on Vocals
Classic Reverb   Delays   Reverbs; All-Purpose Reverb
Compciter   Distortion; with highpass filter
Crystal   Subtractive/ FM Synth- Lead, Pads, Ambient Sounds- Trance, Ambient- Brian Eno, Jean-Michaael Jarre
Cubix   Drum/ Bassline Synth- Drums, Synth- Electro, House- Kraftwerk, Depeche Mode
delay   Delay; Basic
delay_chorus   Delay; with added chorus
delay_sustain   Delay; Auto sustaining

delay_tempo   Delay; with beat sync
delay_varlen   Delay, Variable length delay
dirtsqueeze   Distortion; with saturation
distort-fuzz   Distortion; Fuzzy
EVM Bassline v1-3   Acoustic Bass Synthesizer- Acoustic- Rock, Pop- Any
EVM UltraSonique   Synthesizer/ Sample player- Lead, Pads, Samplers- Electronic, Pop- Air, Van Halen's 1984
Exciter   Dynamics; harmonically enhances dull recordings
expander   EQ; Downward expander
fairlychildish   Dynamics, compressor limiter
fft-delay   Delay; Eight band fft delay
fft-filter   FFT bit filter
fft-ps   FFT pitch experimenter
flangebaby   Modulation; Flanger with beat sync
floaty_delay   Delay; Modulating delay
FM Synth with Multiple Outputs- Lead, Bass, Pads- Electronic, Pop- New Order, J Saul kane
Frohmage_vst2win   Filters; Unique Resonance Filter- Produce EXTREME Effects
graphdist-dyn   Distortion; Graphic interphase
GURU   Drum Machine, MPC, any
Hammond Organ emulator- Lead- Gospel, Rock, R B- Jimmy Smith, Al Green, MMW
HighLife   Sampler- Samplers- Any- Everyone
hpflpf   Filter; High pass, low pass
hugebooty   Dynamics; Bass enhancer
JCM900   Amps; Vintage Marshall Tube Amplifier Simulator- Adds Warmth to Guitars and strings
Lallapallooza_lite   FM Synth- Lead, Pads- Experimental, Industrial- Front 242, Merzbow
mdaBandisto   Distortion; multi-band distortion
mdaCombo   Amps; combo amp
mdaDegrade   bit reducer
mdaDelay   Delay
mdaDetune   Detune; detune by cents
mdaDubDelay   Delay; delay with LFO settings
mdaLeslie   Amps; Leslie style rotory cabinet
mdaLoudness   Dynamics; level booster
mdaMultiBand   EQ; multi band EQ
mdaOverdrive   Distortion; Overdrive and muffle
mdaRezFilter   Filter; Resonance filter
mdaRingMod   Modulation; ring mod
mdaRoundPan   EQ; Round Pan
mdaShepard
mdaStereo   Dynamics; Stereo width, delay, balance, and mod
mdaSubSynth   Adds sub harmonic frequencies
mdaTestTone   Test tone; sine, white noise, pink noise
mdaThruZero   Modulation; phase modulation
mdaVocoder   Vocoder; talk like a robot
MetalMickey   Delay; Eight step delay effect
MGA_JSLimiter   Dynamics; Limiter
MicroSynt   PWM Synth- Lead- Electronic, Any- Basic synth sounds
midi_arp   Arpeggiator; plays notes in succession
midi_CC_mapper   Configure midi mapping
midi_chorderizer   Offset up to four voices
midi_chordkey   Chord in key
midi_humanizer   Velocity and timing humanizer
MIDI_KeySnap   Midi note constrainer
midi_modal_randomness   Convert midi into modal randomness
midi_note_repeater   Simple midi note repeater

midi_note2channel   Send Midi notes to a channel
MIDI_Tool II   Midi modification
midi_transpose   Transpose by semitone
MIDI_Variant   Pattern variation
MIDI_Velocifier II   Midi velocity effect
midi_velocitycontrol   Midi velocity control
MIDI_Wobulator   Midi pitch wheel generator
midinoteondelay   Midi note on delay
Mini_ErHu   String Synth- Acoustic, Lead- Scary Movie Music
Minimal   Drum/ Bassline Synth- Drums, Synth- Acid, House- Rebirth
Monolisa   Bass Synth- Lead, Bass- Electronic- generic
moog24db   Moog style filter
Motion2.8   Automated Modulation Synth- Lead, Pads, Ambient Sounds- Dust Bros,, soundtrack music
Mr. Alias
MrDonald   Amps; Panning; Rotary (Leslie) Speaker simulator- Multi-Purpose
MrRay22   Electric Piano Synth- Lead, Acoustic- Pop, R   B, Any- everybody
MrRay73   Rhodes-Style Piano Synth- Lead, Acoustic- Pop, R   B, Rock, any- Ray Charles, everyone else
MrTramp   Wurlitzer-style Piano Synth- Lead- Pop, R   B, Rock- Supertramp, Three Dog Night, Fela Kuit
Nanotron2   Novatron/Mellotron emulator- Lead- Rock, Pop- The Moody Blues, David Bowie
Noise Synth- Ambient Sounds- IDM, Experimental- Alec Empire, Kid 606
noisegate   Dynamics; Simple noisegate
octavedown   Octave downer
octaveup   Octave upper
OctBUZ   Distortion; Distortion/ Overdrive Module with Octave Adjustment
ORGANized_trio_v30
ozzifier   Pitch delay doubler
Phadiz(P)   PD Synth- Lead, Pads- Electronic, Ambient- Vangelis, The Orb
Plugsound Free   Multi-Instrument Sound Module- Lead, Misc- All Genres- Any Artist
ppp   EQ; Ping pong pan
ProtoPlasm21free   Multi-timbral synth; Lead, Pads- Electronic, Experimental- Orbital, Little Computer People
PS-1   Filters; Simulated Oberheim Phaser Stomp Box
Purity   Multi-Instrument Sample Player- Lead, Pad, Bass, Drums, Misc- All Genres, Any Artist
rbj1073   EQ; 1970's vintage
reacomp-standalone   EQ; Compressor
readelay-standalone   Delay; multi-tap delay
reaeq-standalone   EQ; Multi band EQ
reafir_standalone   Dynamics; EQ, Gate, Compressor, Convolve, Subtract
reagate-standalone   EQ; Gate
RealGuitar2SE   Acoustic Guitar Sample Player- Lead, Acoustic- Rock, Pop- Any
reaxcomp-standalone   EQ; Multi band eq
Rednef Twin   Amps; Simulated 1969 Fender Twin Reverb Guitar Amp
reverseness   Reverse in segments
ReZ v.1.3   PM Synth- Lead, Bass- Techno, Industrial- Daft Punk, NIN
Rogue   Synth- Lead- Electronic- Any
Shepards tone; adds an oscillating sine wave
soft_clipper   Dynamics; level booster
SP1LimiterJS   Dynamics; Simple peak limiter
spectro_filter_paint   Filter; Draw the filter field
spectropaint   Draw the effect
StereoField   EQ; Stereo field manipulator
String Theory 1.5   String / Hybrid Synth- Lead, Ambient Sounds- Rock, Pop, Electronic,

Ambient
StringSynth   ARP/Solina String Synth emulator- Lead, Acoustic, Ambient Sounds- Air, Pink Floyd
STS-26   FM Synth- Lead, Pads, Ambient Sounds- Electronic, Ambient- The Orb, Black Dog Productions
Super Spook Keys   Theremin Emulator similar to Spook Keys with more options- Lead, Ambient Sounds, Rock, Electronic, Experimental- Stereolab, Pink Floyd
superpitch   Adjust pitch by percents, semitones, octaves
Sylenth1   VA Synth- Lead, Pads, Bass, Ambient Sounds- Electronic, Pop, Ambient- Yello, New Order
Synth1 VST   VA Synth modeled after Nord Lead2- Lead, Bass- Electronic, Pop, Hip-hop- Autechre, RZA, Peter Gabriel
thunderkick   EQ; Subsynth filter
TickyClav   Clavinet Emulator- Lead- Rock, Pop, Funk- Mates of State, Stevie Wonder, The Commodores
Transient-driven Auto-Pan v1.1 (Master)   EQ; Transient driven auto pan - Master
Transient-driven Auto-Pan v1.1 (Slave)   EQ; Transien driver auto pan - Slave
TransientController   Dynamics; Transient control
tremolo   Filter; Repetitive variation in amplitude
TruePianos   Piano Module- Lead- Rock, Pop, Classical- Alicia Keys, Elton John
Tube Screamer   Distortion; Simulated Overdrive Stompbox
tuner   Get in tune
Univibe   Filters; Simulated Modulation Stompbox- Provides Reverb/ Phaser Type Effects
waveShapingDstr   Distortion: Wave shaping
Wusikstation   FM Synth- Lead, Bass, Pads- Electronic, Pop- New Order, J Saul kane
Wusikstation Multi-Out

Appendix C - Audio Interface Control Panel

The Control Panel will be available from your system tray (typically located at the bottom right hand corner of your screen near your clock).

Double click on the icon to open the audio interface hardware settings.

Sample Rate: Drop down the menu to select the sample rate – 44.1, 48, 88.2, 96k. This must be set to the same sample rate in your recording software.

Clock Source: Drop down the menu to select the digital sync source.

INTERNAL SPDIF: Must be selected to use the SPDIF input.

Note that Control Panel settings will be saved upon power down.

Latency: – Sets the amount of delay time (1.5ms – 24ms). Latency is the time it takes for the computer to process audio. Lower latency settings demand more CPU resources. In the case of inconsistent audio, (i.e. drop outs, pops and clicks, digital distortion, etc) we recommend that you increase this setting.

Input Level Boost
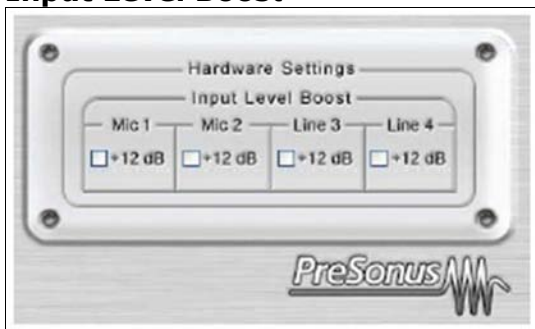
Input Level Boost: clicking this button will boost the input level of each corresponding analog input by +12dB. Use this feature for recording quiet instruments or devices with low output.

AUDIO INTERFACE CONTROL PANEL ADVANCED SETTINGS:
You can "right-click" on the control panel icon to select between three different computer optimization settings. These settings optimize the buffers and audio streaming settings based on the speed of your processor. If you are experiencing audio drop-outs, it is recommended that you select a lower CPU setting.
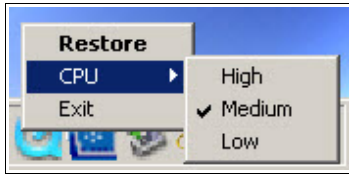
- High: 2GHz and higher
- Medium: 1GHz to 2GHz
- Low: 800MHz to 1GHz

Audio Interface Mixer Panel

The interface includes a software MIXER/ROUTER for flexible monitoring and routing of the audio signal before it hits your software program. This is helpful to avoid the time it takes to process the audio you are recording – called latency. Therefore, you can mix the input signal going into the interface with the playback from your software for zero latency recording and monitoring.

Note: The default settings (pictured above) for the interface mixer has all faders set to 0dB and all pans set to center, with the Software Playback set to channels 1/2, the Mixer Output set to Bypass, and the Playback to Phones set to channels 1/2.

FIREBOX Mixer Flowchart:

6 inputs from the FIREBOX go directly to mixer and software

Playback from Software

Headphone Output can be any playback stream from your software, or the mix from the mixer

Mixer Output to one of six stereo outputs on Miko
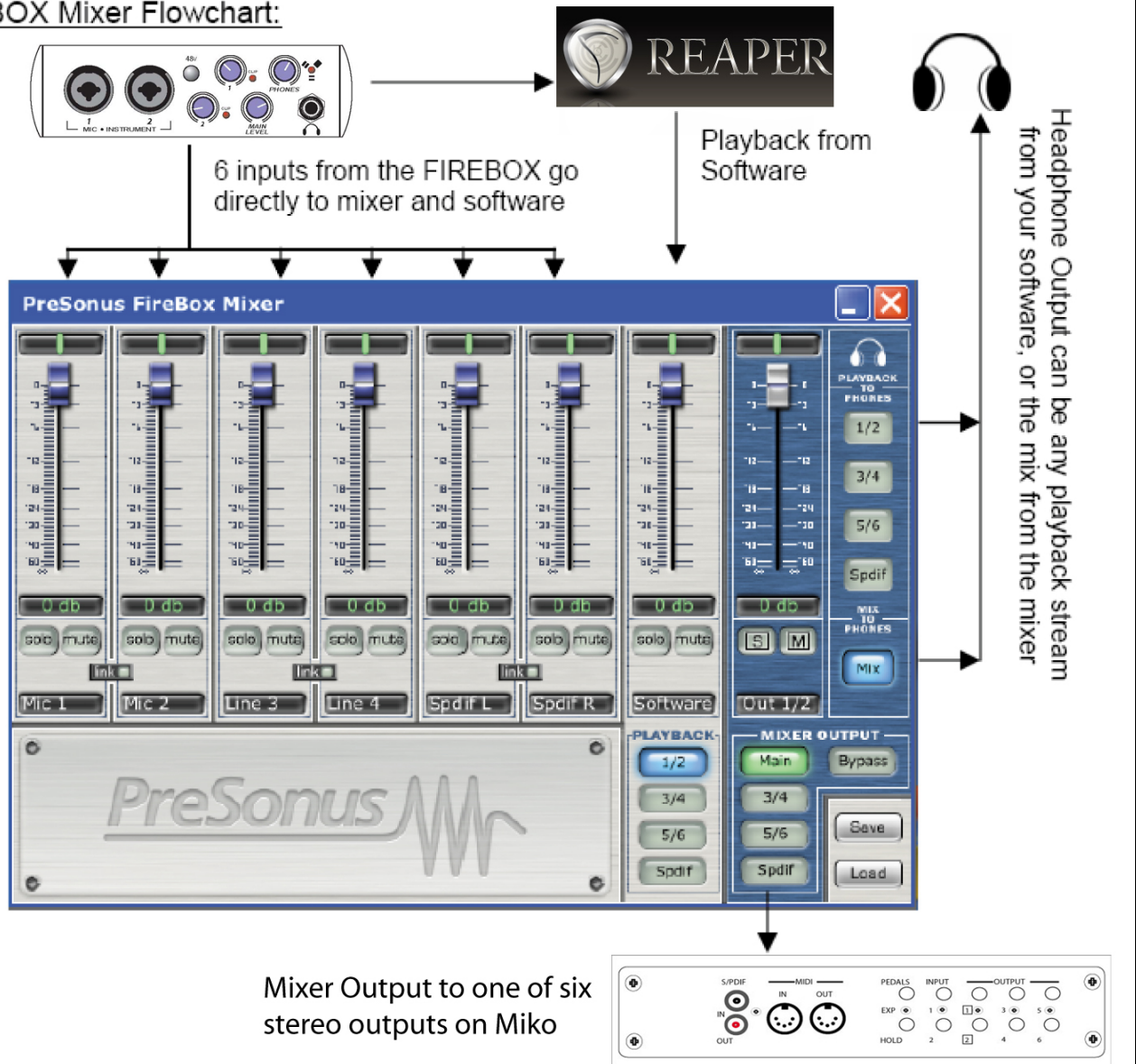
To set up your Mixer application for zero latency recording (example):

1. Record enable your desired track – turn off input monitoring function (or mute the track) in your software.
2. Select playback channels of the main output of your audio software in the SOFTWARE PLAYBACK channel of the interface mixer. The input on this channel will be the output of your software.
3. Connect your microphone to input 1 and turn on phantom power if needed.
4. You can now adjust the levels of your microphone and your software playback to your desired levels for recording (monitoring only).
5. If using headphones select "Mix" under "Mix to Phones". This will send the output of the Mixer to the headphone output.
6. In the MIXER OUTPUT section of the interface Mixer, select the pair of outputs to send out of the interface (for example studio monitors connected to outputs 1/2).

OPERATION OF MIXER

The silver tracks represent the six possible inputs from the interface as well as the software playback. The blue section contains information on the output of the mixer.

Pan (green vertical line.) You can click-drag the pan (stereo image) of each input by moving the green vertical line to the left or right. Double clicking on the green line will reset the pan to the center. Holding down ALT or CTRL, or SHIFT while dragging PAN, puts PAN into fine mode for more accurate adjustment of PAN.

Level (fader) – Adjusts the input level of each input. Double clicking on the blue fader automatically sets the fader to full gain.

Solo – by pressing Solo, all other input channels are muted.

Mute – Mutes input channel.

Link – links the input gain of adjacent channels. If the two channels do not have the same level when the link button is pressed, clicking on one of the faders will send the other input level to the same level as the channel that was clicked on.

Input (software playback channel) – This is the audio return from your audio software. The same functions are available as the other inputs including PAN (balance between left and right channels), LEVEL, SOLO and MUTE. This is a stereo channel. This channel picks up the audio stream that is sent from your software and enables you to mix it with the direct input of your FIREBOX.

PLAYBACK – Indicates the stereo stream output channels from your software.

OUTPUT SECTION

Output Level (fader) – Adjusts the output level of the mixer.

Global Solo Clear – Clears (ON) or restores (off) solo's that have been selected in input channels.

Global Mute Clear – Clears (ON) or restores (off) mute's that have been selected in input channels.

Playback to Phones – selects the audio stream output coming from your software.

Mix to Phones – Pressing this button sends the Mixer's zero latency output to the headphones.

Mixer Output – sends the output of the mixer to the selected pair of outputs on the FIREBOX.

Save – enables you to save your mixer setups.

Load – loads your mixer setups. (note that you must first save a mixer setup before you load one.

A p p e n i d i x D - M a k i n g A d j u s t m e n t s

Adding a Second Display

All Open Labs production stations come standard with an external VGA monitor output. This is so you can run an additional display. For best results, use "extended desktop" mode. The following instructions will explain to you how to achieve this.

While your machine is powered down, connect the second display. When you boot the machine back up the second monitor probably will seem connected. However, once the system loads up, the second display will be blank. From here, the second display needs to be set to.

1. Press the Open Labs icon in the lower left corner of the screen, press the [QUIT] button and select "Exit to Windows".
2. Right-click the desktop, and then click *Properties* on the shortcut menu.
3. In the Display Properties dialog box, on the Settings tab, click the blue rectangle with the number 2 (which represents the external monitor), and then select the Extend my Windows desktop onto this monitor checkbox.
4. Under Screen resolution, drag the slider to the right to change the screen resolution of Monitor 2 to 1024 by 768 pixels, and then click OK.
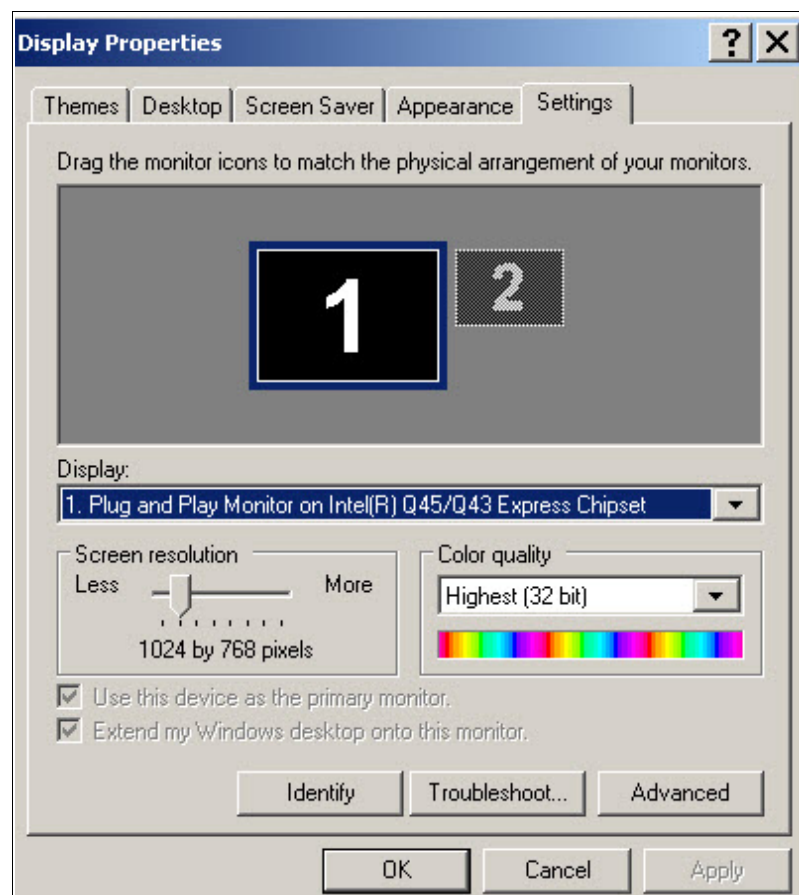
- When prompted, click Yes.
- You can change the screen resolution in the Display Properties dialog box.
  Note: If your desktop background does not appear on the external monitor, click No, and then repeat step 3 to decrease the screen resolution.

<u>Adjust the position of the monitors</u>

By default, Windows places the second screen to the right of the first (or primary) one. You can change the position of the monitors to reflect their physical position.

1. Right-click the desktop, and then click Properties on the shortcut menu.
2. In the Display Properties dialog box, on the Settings tab, drag the graphical representation of Monitor 2 (the blue box with the number 2 in it) to the left of Monitor 1, and then click OK.
3. When prompted, click Yes.

<u>Adjust your screen settings</u>

When you first enable Extended Desktop mode, your taskbar and any icons on your desktop appear on the Open Labs touch screen; desktop space without icons appears on the external monitor. You may find it easier to show the taskbar on the external monitor since it is usually the larger of the two screens.

1. On your touchscreen, right-click an empty area of the taskbar, and then click Lock the Taskbar.
2. Drag the taskbar to the external desktop and drop it where you want it to appear.

Accessing the Intel® Graphics Properties Window

To open the Properties window of the Intel® Graphics Media Accelerator Driver use one of the following methods:

- Press Ctrl+Alt+F12 keys
- Right-click the Windows desktop and click [Graphics Properties]

Also:

Display Control Panel Method (Microsoft Windows* XP or 2000):

1. Click Start.
2. Click Control Panel.
3. Double-click on the Intel® logo.
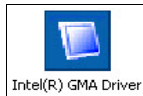
Once you click the Intel® logo this is the window you will see.
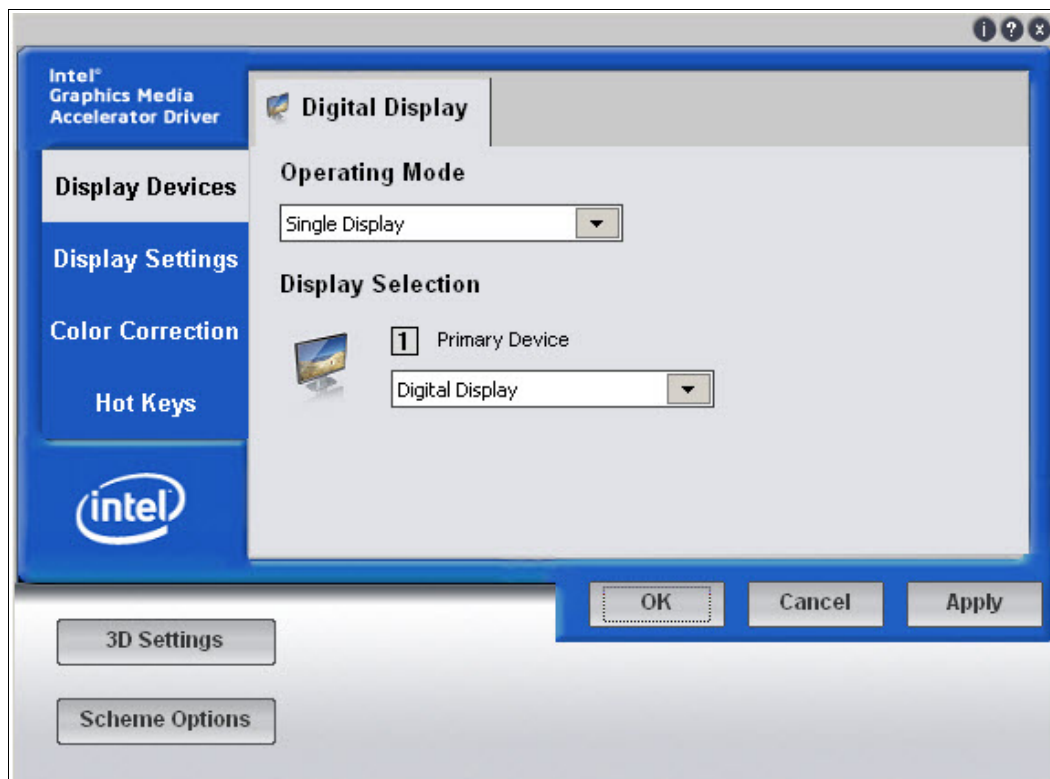
Even though your external monitor is connected, it will not show up until you choose the correct settings. The default Operating Mode is "Single Display". The Open Labs production station touchscreen is called "Digital Display".

Clicking the drop down menu of the Operation Mode section will reveal the following options.

• *Intel(R) Dual Display Clone*: The display mode where the primary display is shown on all active monitors that are attached to a graphics adapter.

• *Extended Desktop*: A mode that allows a user to extend viewing capabilities by using two monitors at the same time
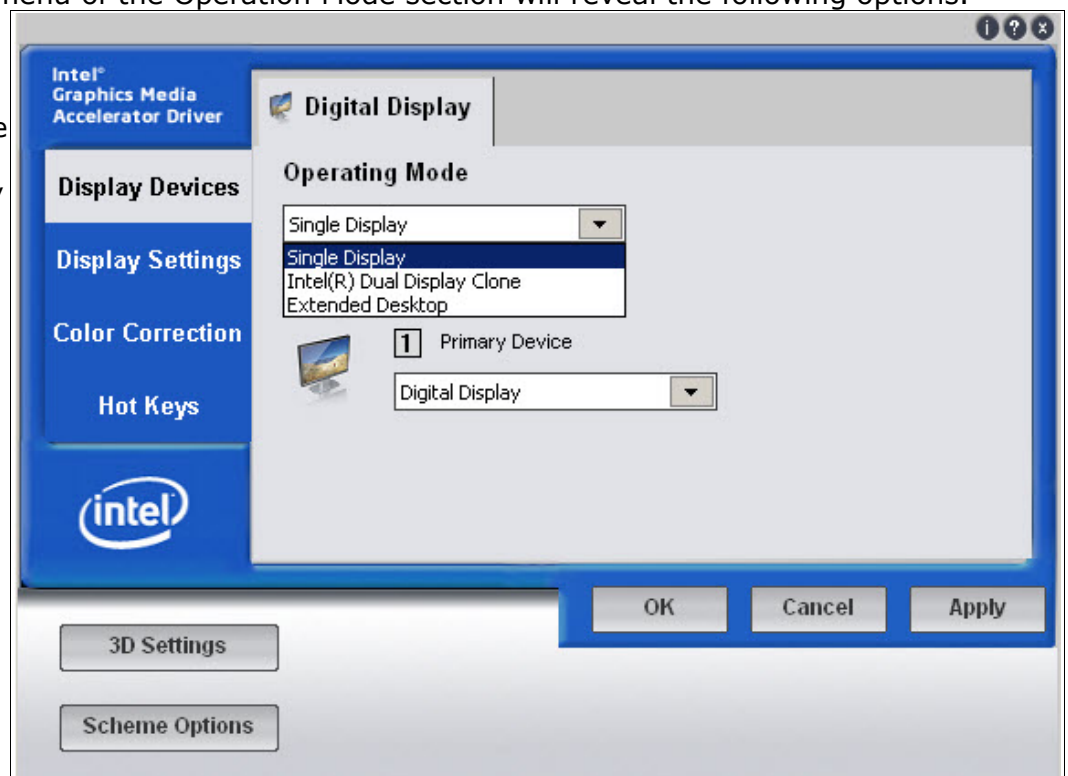
Once you make an Operating Mode selection, the Display Selection options will reveal the Primary and Secondary Devices.

Clone Mode:
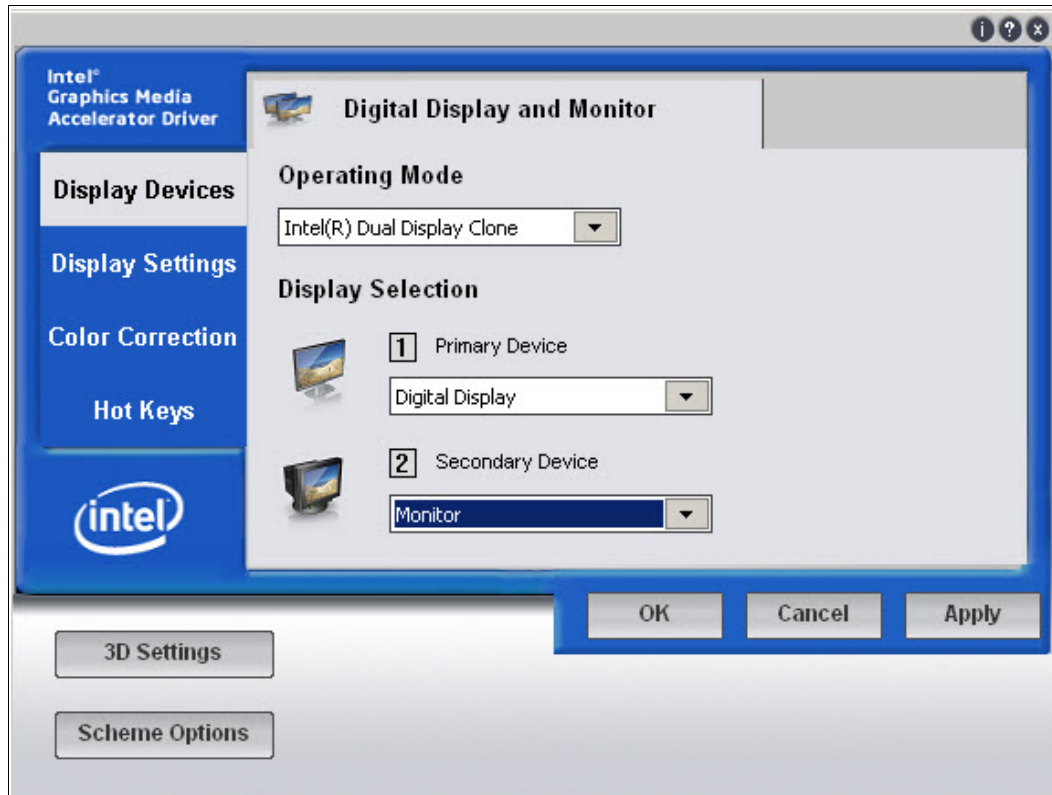
Extended Desktop Mode:
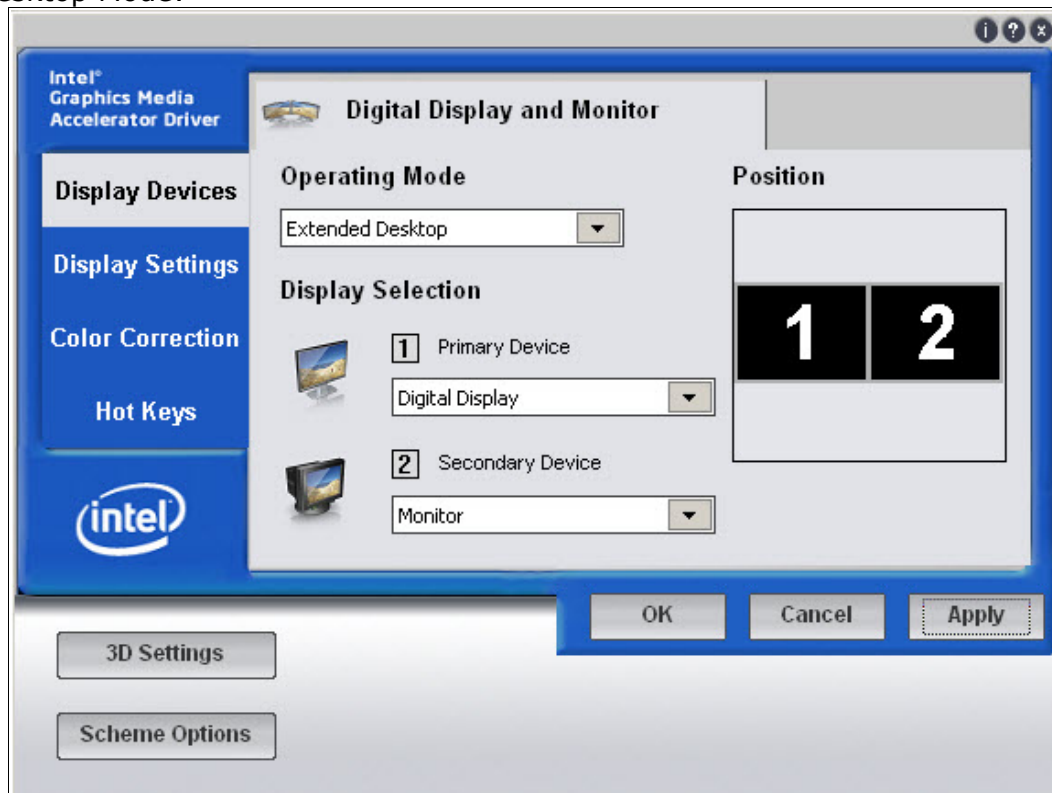
By default, we recommend that the primary display always be set to Digital Display. However, you can change this and select the external display to be the primary, the touchscreen then becomes the secondary monitor.

Once you decide on an operating mode, press the [APPLY] button to lock in the setting. The second monitor should now activate. It is normal for this monitor to be upside down.

You can click on the [Display Settings] to rotate a display.
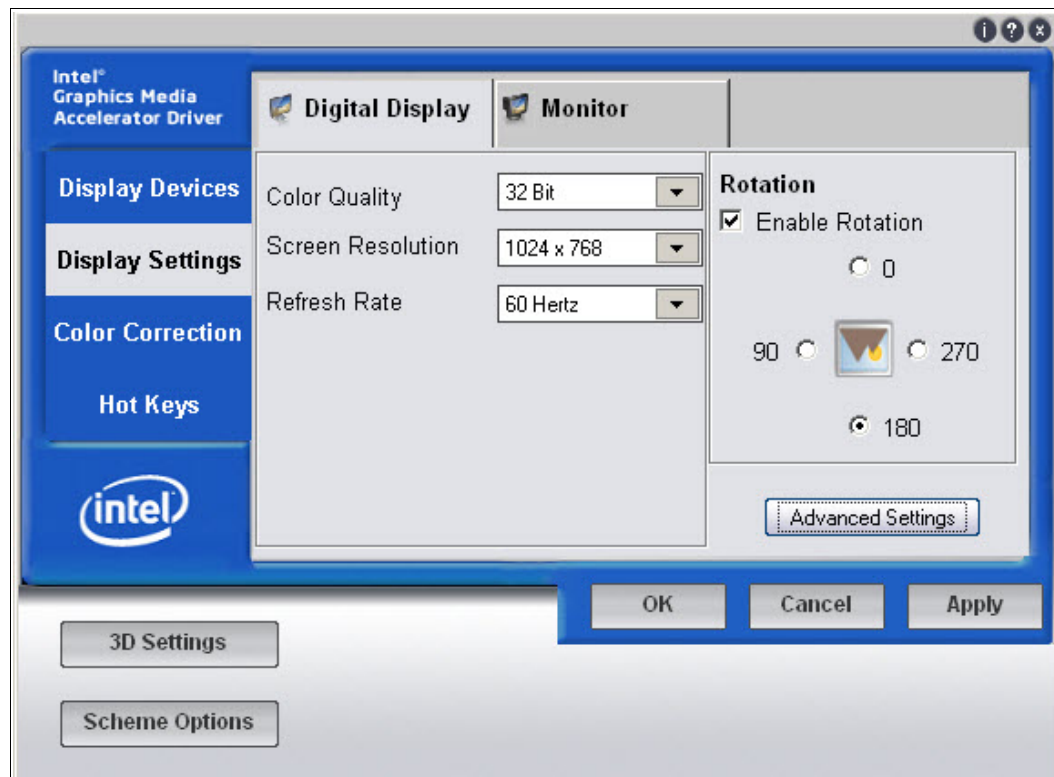
Examine the middle window, each display has its own tab. This represents each display being independent from the other. Rotating one display does not affect the other. If you have to rotate a display, afterwards press [Apply] to commit the changes.

If you chose "Extended Desktop" as the operating mode, you can use the window on the right side called "Position" to arrange the monitors to match the way they are physically arranged.

Select the monitor and just drag it where you want it to be.
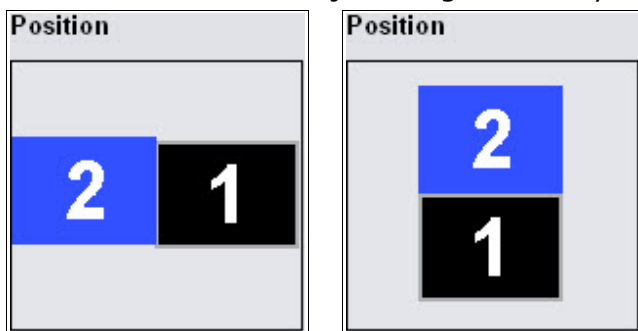
Calibrating the Touchscreen

There is a property in the "TouchKit" utility used to customize your touchscreen to your "touch style", that property is called "4-points Calibration".

Start by pressing the Open Labs icon in the bottom left corner. Press "Control Panels", then press the [Touch Screen] Icon to launch it's interface.
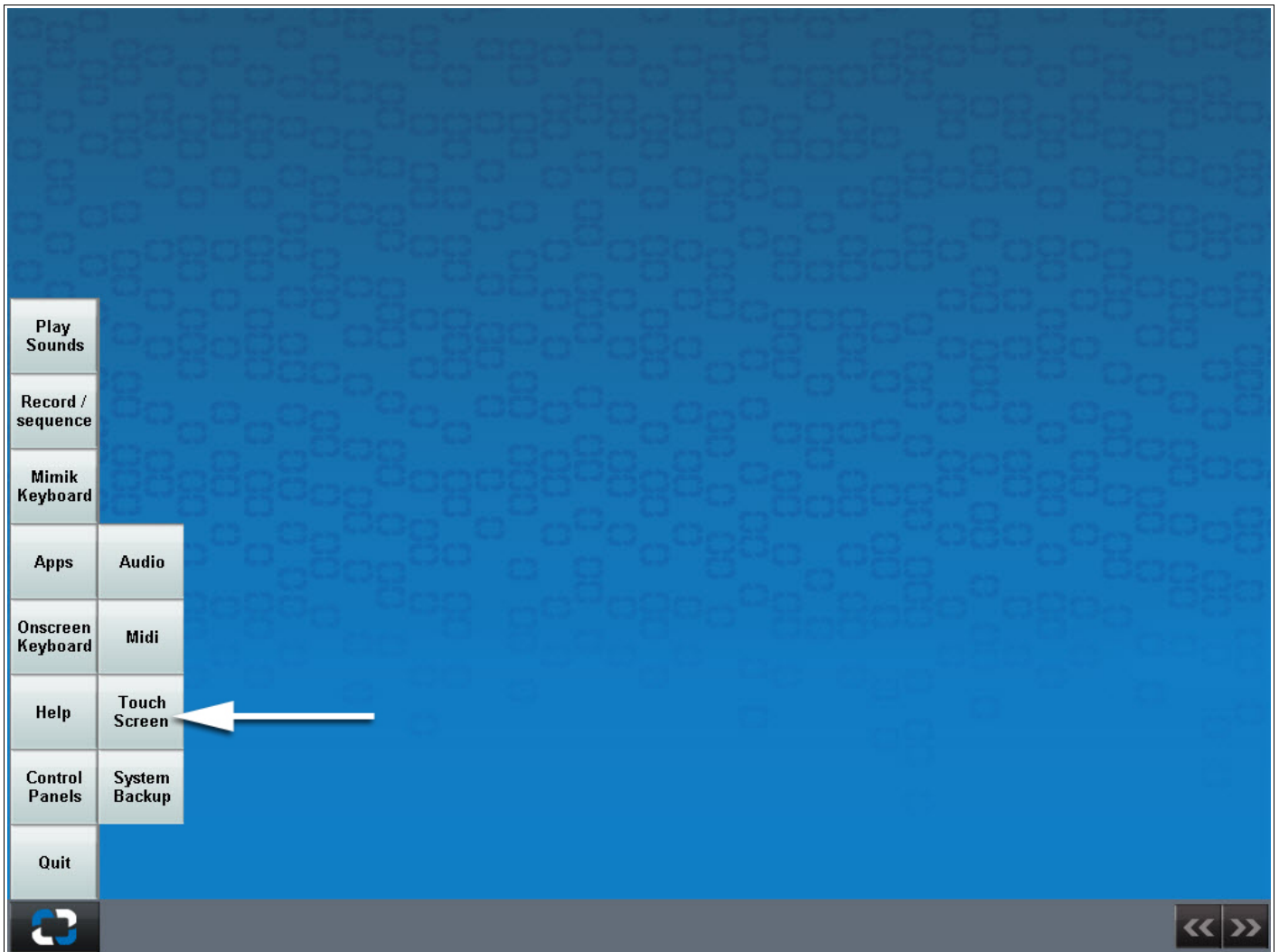
Once the Touch Screen utility loads, press the [Tools] tabs.
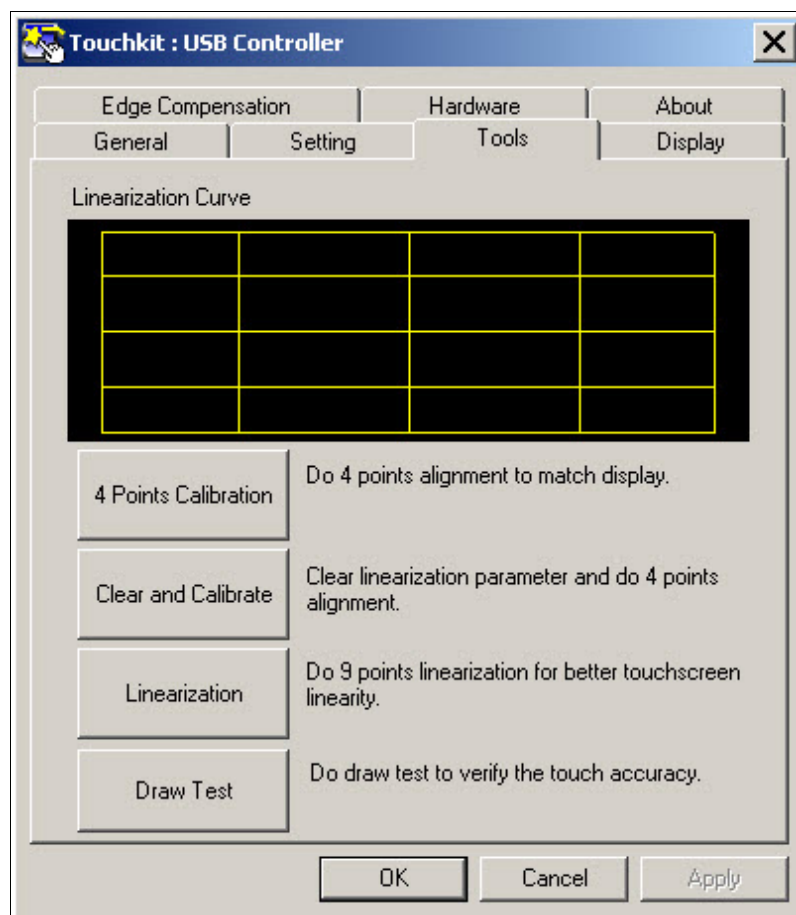
Now, select "4 Points Calibration". The Calibration screen will appear next. Please go to the next page.

The "4-Points Calibration" allows you to set the touch screen to the style of touch you will primarily use while selecting items on the screen. Please make sure that you touch the symbol with the part of the finger you will use the most. For instance, angling the finger so the fingernail touches works greatly. Keep in mind that some buttons in applications are smaller, if you have wide fingers it would be a good thing to use the fingernail as described earlier.
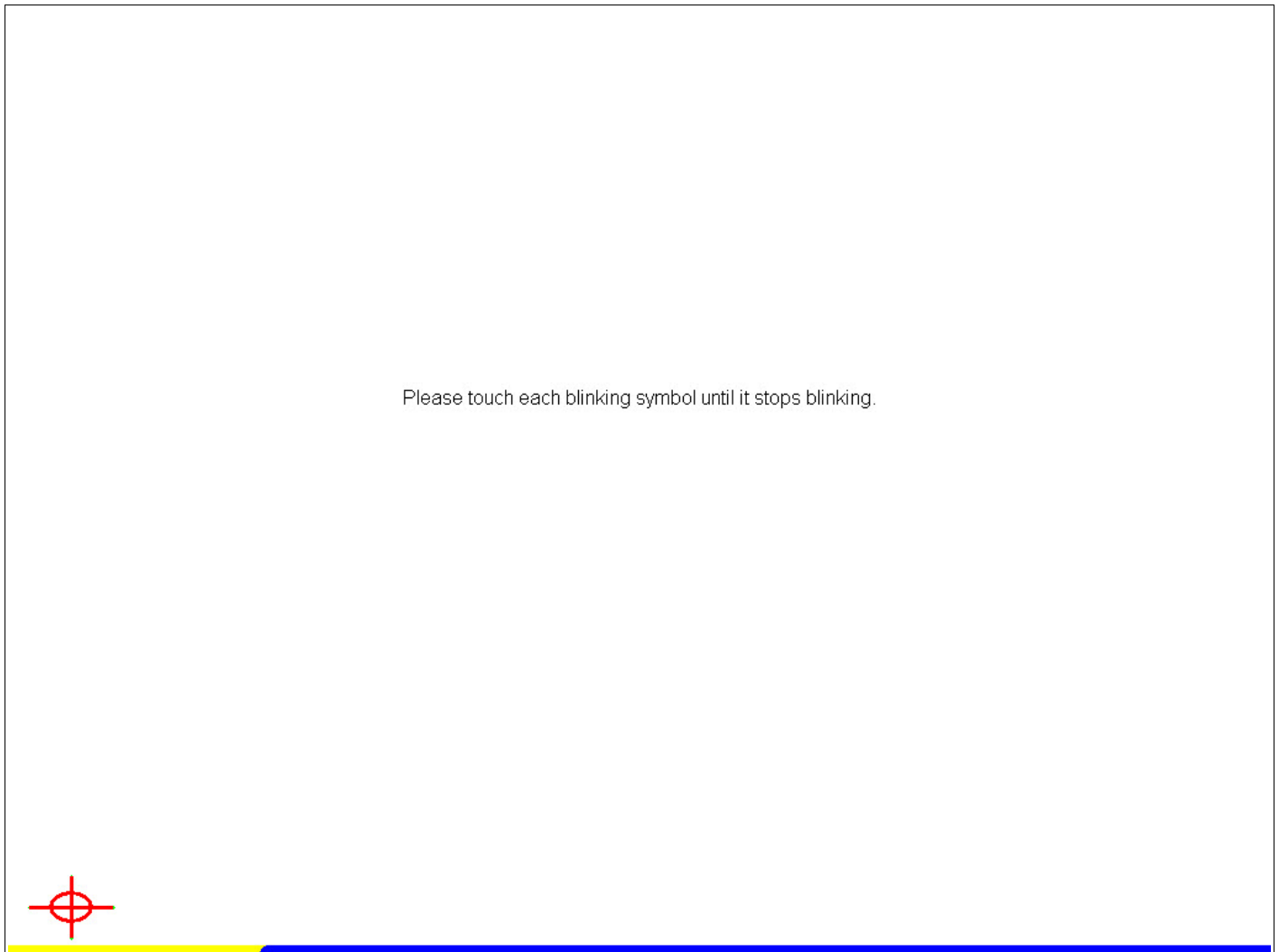
Touch the blinking symbol on the screen until it beeps or it stops blinking. There will be four symbols to push.

1. Bottom left
2. Bottom Right
3. Top Right
4. Top Left

Upon completion, this dialog window will pop up:
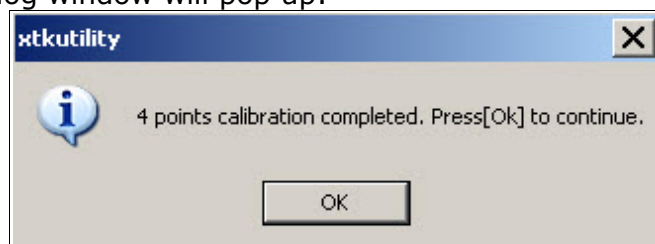
Press [OK] and you are done.

Adding a New Program to Launch from the Open Labs Shell

If you would like to add for example, Reason to the [Record] button of the Open Labs shell, follow these steps.

1. Make sure there is a shortcut on your desktop of the item you want to create a shell link with. Make sure the item is not named "shortcut to Cubase". Rename the item appropriately.
2. While the shell is running, hit "windows key + E". This launches Windows Explorer.
3. Browse over to your desktop.
4. Drag the shortcut from desktop to the Open Labs Shell Icon in the bottom left of the screen. Once you get to the Open Labs icon, the other tabs will show themselves, keep dragging the item until you are hovering over the [Record] button.
5. Release the shortcut over the [Record] button, and it will be added to the shell.
6. Relaunch the shell.

L i m i t e d   W a r r a n t y   I n f o r m a t i o n

LIMITED WARRANTY COVERAGE

Open Labs, Inc. ("Open Labs") warrants this hardware product against defects in materials and workmanship for a period of ONE (1) year, TWO (2) years, or THREE (3) years from the date of original retail purchase, depending on the product and service upgrade option purchased. If you purchase the Platinum Service Year 2 upgrade option, it also includes a Year 2 limited hardware warranty. If you purchase the Platinum Service Year 2 & 3 upgrade option, it also includes a Year 2 & 3 limited hardware warranty. To determine which limited warranty came with your hardware product(s), see your packing slip or invoice. If your packing slip or invoice does not state the length of your limited warranty, then it is ONE (1) year from the date of original retail purchase of your Open Labs hardware product. Open Labs limited warranty obligations are limited to the following set forth in this document. If a defect exists, at its option Open Labs will: a) repair the product at no charge, using new or refurbished replacement parts, b) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product, or c) refund the purchase price of the product. A replacement product or part assumes the remaining warranty of the original product or Ninety (90) days from the date of replacement or repair, whichever gives longer coverage. When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes Open Labs' property. When a refund is given, the product becomes Open Labs' property.

OBTAINING WARRANTY SERVICE

If you purchased the product in the Europe, you may deliver the product, at your expense, to any Open Labs' Authorized Service Provider located in Europe. If you purchased the product outside Europe you have no warranty or repair rights in Europe for the product. Be aware, however, that many countries may not yet have Open Labs' Authorized Service Providers and not all Authorized Service Providers have all parts or replacement units for the product. If the product cannot be repaired or replaced in the country it is in, it may need to be sent to a different country or returned to the country of purchase at your expense for repair or replacement. Some products may be eligible for Express Mail/Courier Service. Express Mail/Courier Service involves mailing the product directly to Open Labs. To determine if the product is eligible for this service, call an Open Labs directly at the telephone numbers set out in the service and support reference material accompanying the product. If the product qualifies for this service, the telephone representative will provide further information and instructions. To locate an Authorized Service Provider refer to the service and support reference materials accompanying the product or visit our web site. When you contact the Open Labs' Authorized Service Provider, you will be asked to furnish your name, address, telephone number, and proof of the original purchase (receipt) containing a description of the product(s), purchase date, and the appropriate Open Labs' serial number(s).

RMA Number Required

In any case <u>before</u> shipping a product to Open Labs under warranty or repair service, Open Labs <u>must</u> be contacted to obtain a Return Material Authorization number (RMA number). The RMA number must be clearly marked on the shipment of any product shipped to Open Labs under the product warranty.

Back Up Your Data Before Return

Before you deliver your product for warranty or repair service it is your responsibility to keep a separate backup copy of the system software, application software and data, and disable any security passwords. You will be responsible for reinstalling all such software, data and passwords. Data recovery is not included in the warranty or repair service and Open Labs is not responsible for data that may be lost or damaged during transit, repair or replacement.

Freight damage claims are invalid for fixtures shipped in non-factory boxes and packing materials. Additionally the packing materials may not be covered under by a freight damage claim.

ASSIGNMENTS AND SEVERABILITY
This Agreement shall not be assigned or transferred by Buyer without the prior written consent of Open Labs. Any attempted assignment or transfer of any of the rights, duties or obligations of this Agreement shall be void.

EXCLUSIONS AND LIMITATIONS
This Limited Warranty applies only to hardware products manufactured by or for Open Labs that are properly identified by the "Open Labs" trademark, trade name, or logo. The Limited Warranty does not apply to any non-Open Labs hardware products or any software, even if packaged or sold with Open Labs hardware or software. Non-Open Labs manufacturers, suppliers, or publishers may provide their own warranties. Software distributed by Open Labs under the Open Labs brand name (including, but not limited to system software) is not covered under this Limited Warranty. Refer to the Open Labs Software License Agreement for more information. Open Labs and its Authorized Service Providers are not liable for any damage to or loss of any programs, data, or other information stored on any media, or any non-Open Labs product or part not covered by this warranty. Recovery and reinstallation of system and application software and user data are not covered under this Limited Warranty. Software that is not legally registered by the user and is not a legally authorized copy that has been installed on an Open Labs product may void the Limited Warranty and any continued technical support for the product will be at the sole discretion of Open Labs. This warranty does not apply: a) to damage caused by accident, abuse, misuse, misapplication, or non-Open Labs products including improper cleaning of controls or contacts due to exposure to a dirty, dusty or otherwise contaminated environment; b) to damage caused by service (including upgrades and expansions) performed by anyone who is not an Open Labs Authorized Service Provider; c) to a product or a part that has been modified without the written permission of Open Labs; or d) if any Open Labs serial number has been removed or defaced e) damage to units used for loan or rental.

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Some jurisdictions/states may not allow the exclusion or limitation of incidental or consequential damages or exclusions or limitations on the duration of implied warranties or conditions, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary by jurisdiction.

WAIVER
Continued use or possession of the Products after expiration of the applicable warranty period will be conclusive statement by Buyer that the warranty is fulfilled to Buyer's satisfaction, unless Buyer has previously notified Open Labs in writing of a particular defect. Failure of Open Labs to enforce any term and condition of this Agreement will not be deemed to be a waiver of such term or condition. Each shipment made hereunder shall be considered a separate transaction. In the event of any default by Buyer, Open Labs may decline to make further shipments.

P o l i c i e s

Payment
We accept Visa, MasterCard, American Express, Discover Card, Wire Transfer, Certified Bank Check and PayPal (additional 3% charge). For all Credit Card orders - we only ship to the billing address of the credit card holder. International Orders must be prepaid via Wire Transfer only. Personal or Business Checks are subject to a three day processing period and must clear purchaser's bank prior to an order shipping. All orders placed with Open Labs, either by phone, fax, mail or online constitutes the acknowledgment and acceptance of all conditions listed on www.openlabs.com.

Secure Transaction
OpenLabs.com online order form features the SSL Web Server Certificates to offer secure communications by encrypting all data to and from the site. All online orders will be confirmed by email or telephone. Credit Card orders will be shipped only to the credit card billing address.

Shipping
All shipments within the 48 Contiguous State will be sent via DHL, UPS ground service or FedEx ground, unless air delivery is requested. Your air options are Next Day Air, 2nd Day Air and 3-Day Select. For International Orders, we use UPS Expedited Service (for Canadian Orders, we use UPS Standard Ground Service or USPS Service). For shipments to Alaska, Hawaii and Puerto Rico, 2nd Day Air Service will be utilized. We do not ship COD. Air shipments are subject to Dimensional Weight. Please go to UPS.com for explanation.
All customers wanting to cancel orders must do so before they ship. The customer placing any online order will be responsible for all shipping charges to and from their location if the placed order has shipped prior to cancellation. The customer placing an online order will be responsible for all restocking charges for orders canceled post shipping.

Every carrier used by Open Labs is required to verify and sign for the condition of and the number of pieces that are released to them for delivery. Our control and responsibility for any shipment ceases when the carrier signs the Bill of Lading. When you sign the Bill of Lading, you legally assume responsibility of the shipment being delivered. Please, thoroughly inspect each shipment immediately upon arrival.

All Sales Are Final
In the case that your product is defective and still under factory warranty, we will repair or exchange the product at our discretion for an exact match only, you may not switch to a different item and a refund will not be given. Please refer to our Damaged Shipments and Refund policies below.

Damaged Shipments
Shipments are carefully and properly packaged by Open Labs, the ultimate responsibility for delivery in good condition rests with the carrier. If you should receive your merchandise damaged by the Shipping Carrier, you must contact Open Labs within 24 hours or claim can not be filed. Keep all original packaging, including packing materials and original shipping carton. Be sure to make note of irregularities or damage to the merchandise on the freight receipt. Open Labs will call the Shipping Carrier to report the claim. The Shipping Carrier will issue a Damaged Call Tag and have the package returned to Open Labs. DO NOT return damaged items without prior approval.
Do not attempt to remove your merchandise from its shipping container and packaging materials without assistance. Damages cause from dropping the merchandise will void all warranties and protection.

Warranty Returns or Exchanges

All return products must have a Return Material Authorization ("RMA") number issued by Open Labs only. Returns will be refused without a proper RMA number. The RMA number is valid for only 20 calendar days from the date issued. Open Labs must receive the product back within 20 calendar days; otherwise, you are subject to be billed for the item. All returns must be sent prepaid - no collect shipments will be accepted. Open Labs recommends that you insure the returned parts for it's full value to protect yourself against loss with the carrier.
All authorized return merchandise must be unused and in it's original packaging, All invoices, documentation, warranty cards, instructions, software and hardware MUST also be returned. No return or exchange on merchandise that shows signs of having been modified (hardware or software). Open Labs does not issue refunds for shipping charges.

Backorders

Due to fluctuations in the availability of parts and components, orders will occasionally need to be placed on backorder. You will be notified within 14 days of order placement should your merchandise be placed on backorder status. You may contact our Sales department at 1-877-978-0888 for inquiries.

Used Items

Your interactions with outside organizations and/or individuals for the purpose of purchasing used merchandise, including payment and delivery of goods or services, and any other terms, conditions, warranties or representations associated with such dealings, are solely between you and such organizations and/or individuals. Open Labs offers no transfer of our Manufacturer's Warranty on used merchandise purchased through an unauthorized dealer or any third party. These items are sold as is. User/Buyer assumes all costs and risks associated with the purchase of used merchandise through auction or wholesale (Ebay, UPS salvage, classified ad, etc.). You should make whatever investigation you feel necessary or appropriate before proceeding with any online or offline transaction with any third parties or individual. For a list of our Authorized Dealers, please see our Dealer's page (www.openlabs.com/dealers).

S u p p o r t

Product Registration
Please take a moment to Register your product with us. You must register your product to receive tech support.

www.openlabs.com/registration

Contacting Tech Support
Contact Open Labs Tech Support Monday-Friday 10am-7pm CST
(Assistance outside these hours is available by email request)

(512) 444-6222
1-877-978-0888
techsupport@openlabs.com

About Our Support
Please be at your machine and near an internet connection before calling technical support for assistance. In many cases technical support may need to log-in to your machine to diagnose issues.

Telephone, email, and remote session support (equipment not included) is available to the original Owner/Buyer of new products for the length of the limited warranty that came with your Open Labs hardware product. To determine the length of your limited warranty, see your packing slip or invoice. If your packing slip or invoice does not state the length of your limited warranty, then it is ONE (1) year from the date of original retail purchase of your Open Labs hardware product.

Support is included for all hardware/software shipped with our hardware products.

Support is not provided for modifications to hardware/software by the user, and in some cases modifications to hardware/software may void the warranty.

Software that is not legally registered by the user and is not a legally authorized copy that has been installed on an Open Labs product may void the Limited Warranty and any continued technical support for the product will be at the sole discretion of Open Labs.

You must register your product to receive technical support.

Additional telephone technical support outside the limited warranty may be purchased at $49.00 per incident (without Internet connections - $79.00) by calling 512-444-6222.

Additional telephone technical support outside the limited warranty for Spyware and Virus Diagnosis and Removal may be purchased at $99.00 per incident.

Prices are subject to change without notice.

Online User Forums and Support

You can find additional help in our User Forums.

Open Labs provides additional support through web based tutorials and online forums for Do-It-Yourself solutions and training with your Open Labs hardware and software. This support is available to Open Labs hardware owners/buyers by visiting forum.openlabs.com. Since the hardware and software products shipped by Open Labs change over time, the details in the materials and information available through the tutorials and online forums may or may not apply to your hardware or software. Care should be taken – particularly with information provided by third parties on the online forums.

Additional Support for Third-Party Software/Hardware
Should you have an issue or question about installed third-party software or hardware, please consult customer-support for that company, or check online forums specific to that product. For your convenience we have linked some of the more frequently requested company websites below:

- Pro Tools - www.digidesign.com
- Cubase/Steinberg/Wavelab 'family' - www.steinberg.net
- Sonar/Cakewalk 'family' - www.cakewalk.com
- Ableton Live - www.ableton.com
- Reason - www.propellarheads.se/products/reason/
- Sony Creative 'family' - www.sonycreativesoftware.com
- Native Instruments Komplete - http://www.native-instruments.com
- Waves - www.waves.com
- Spectrasonics plug-ins (Stylus RMX, Ominisphere, Atmosphere, Trilogy) - www.spectrasonics.com
- Fruity Loops/FLStudio - http://flstudio.image-line.com/documents/support.html

P l a t i n u m   S e r v i c e s   –   Y e a r   1

The new "GEN5 L-series" products include 1 Year of Open Labs Platinum Services:

- 1 Hour of "Get to Know Your Open Labs System Training"
- 7 "How To & Usage Training" Sessions (Limit 1 Hr. Each)
- Limited 3rd Party Software Support
- Plus Access to Technical Support on Saturday

Please see additional information below regarding Open Labs Platinum Services.

Product Registration

Please take a moment to Register your product with us. You must register your product to receive tech support.

Contacting Tech Support
Contact Open Labs Tech Support Monday-Friday 10am-7pm CST
(Assistance outside these hours is available by email request)

(512) 444-6222
1-877-978-0888
techsupport@openlabs.com

In addition to Open Labs standard 1 year limited hardware warranty and 1 year technical support services, when you purchase any of the new "GEN5 L-series" products like the Miko LXD, the Neko LX5, or the Neko XXL, your purchase includes 1 Year of Open Labs Platinum Services.

Your first year of Open Labs Platinum Services includes the following new customer-focused service features:

1 Hour "Get to Know Your Open Labs System Training"
To get you up and running quickly, Open Labs will provide you with 1 Hour of "Get to Know Your Open Labs System Training" by one of our Open Labs technical support specialists using phone, web and remote access. You will need to contact Open Labs technical support to schedule your training session in advance.

7 "How To & Usage Training" Sessions (Limit 1 Hr. Each)
Once you have your new Open Labs system up and running, you can contact Open Labs technical support to schedule remote customer training for your Open Labs system. Your 1st year of Platinum Service comes with 7 "How To & Usage Training" Sessions (maximum of 1 hour in length for each session) that you can use to ask questions on how to use your Open Labs system and software as well as limited 3rd party software listed below. It is one-on-one training with an Open Labs product specialist using phone, web, and remote access **(high-speed internet connection is required)** that can be used any time within one year of the purchase of your Open Labs hardware. Open Labs specialists will keep track of your sessions in 5 minute increments and also keep track of your remaining 1 hour sessions.

Limited 3rd Party Software Support
Your 1st year of Platinum Service comes with direct access to an Open Labs technical support specialist via phone, email, or remote session for limited 3rd party software support. Open Labs will provide best effort assistance with the following 3rd party software that has been legally registered by the user and is a legally authorized copy installed on your Open Labs system:

- Pro Tools
- Cubase/Steinberg 'family'
- Sonar/Cakewalk 'family'
- Ableton Live
- Reason
- Sony Creative 'family'
- Native Instruments Komplete
- Waves
- Spectrasonics plug-ins
- WaveLab
- Fruity Loops/FLStudio
- And most VST instruments and virtual effects

Plus Access to Technical Support on Saturday

Open Labs will also provide access to technical support specialists via phone, email, or remote diagnosis for Platinum Service customers on Saturdays as well as normal technical support hours of operation Monday – Friday between 10:00am – 7:00pm CST. This Saturday support is available for one year from the date of purchase of your Open Labs hardware. Technical support assistance is limited to Open Labs hardware & software issues as well as Platinum support services.

Additional Platinum services can be purchased up to 2 additional years by contacting Open Labs Sales directly.

If you require additional Platinum "How To & Usage Training" sessions, you can purchase 1, 3, and 5 session bundles by contacting Open Labs Sales directly.
For more information on our Platinum Support services, please visit our Platinum Services Terms page (www.openlabs.com/platinum-services-legal).

Service Description: Open Labs Platinum Services Legal Terms

Terms and Conditions
This agreement ("agreement" or "service description") is made between the customer ("you" or "customer") and Open Labs. By purchasing these Services (as defined herein) from Open Labs, customer agrees to be bound by all terms and conditions set forth in this document. This Service is available only to the original Owner/Buyer of the Open Labs product and services and cannot be assigned or otherwise transferred.

Service Overview
Open Labs Platinum Services provide additional support and training features for your Open Labs hardware product during the term of your Platinum Service Contract and are limited to the terms and conditions set forth in this document. You must register your product to receive Platinum Service.

Platinum Services are included with every Open Labs "GEN5 L-series" products for 1 Year from the original purchase date of the product. Additional upgrades for Year 2 or Years 2 & 3 of Platinum Services can be purchased by contacting Open Labs sales directly. To purchase Year 2 or Year 2 & 3 Platinum options, you must have either purchased Year 1 of Platinum Service or have Year 1 Platinum Service included with your Open Labs hardware product.

If you purchase the Platinum Service Year 2 upgrade option, it also includes a Year 2 limited hardware warranty.

If you purchase the Platinum Service Year 2 & 3 upgrade option, it also includes a Year 2 & 3 limited hardware warranty.

Depending on the Platinum Service option you have or purchased with your hardware product, below is a description of the Services Open Labs will provide as part of the Platinum Service:

1 Hour "Get to Know Your Open Labs System Training"
To assist you in getting up and running quickly, Open Labs will provide you with 1 hour of Get to Know Your Open Labs System Training by one of our technical support specialists using phone, web, and remote access. You will need to contact Open Labs technical support to schedule your training session in advance. This one-time service is only available during year 1 of your Open Labs hardware product. **The remote access training requires that the customer have high-speed internet connection with their Open Labs hardware product.**

"How To & Usage Training" Sessions
Once you have your Open Labs hardware up and running, you can contact Open Labs technical support and schedule remote customer training for your Open Labs system. Platinum Service "How To & Usage Training" sessions are one-on-one remote training with an Open Labs specialist using phone, web, and remote access that can be used anytime within the term of your Platinum Service. The remote access training requires that you have high-speed internet connection with your Open Labs hardware product. You can use your training sessions to ask questions on how to use your Open Labs hardware and software as well as limited 3rd party software (listed below under limited 3rd party software support) installed on your Open Labs hardware. Open Labs will provide a limited number of "how to and usage training" sessions. The limited number of sessions you are entitled to is dependent on the specific term length of the Platinum Service you purchased and each session is limited to 1 hour in length. See the table directly below:

Platinum Service How To & Usage Training Sessions

Year 1   7 Sessions
Year 2 Upgrade   7 Sessions
- or -

Year 2 & 3 Upgrade   7 Sessions

Open Labs specialists will keep track of your sessions in 5 minute increments and also keep track of your remaining 1 hour sessions. To use your limited number of training sessions, you must contact Open Labs technical support to schedule your sessions in advance. Training sessions will be scheduled during normal business hours Monday – Friday from 10:00am – 6:00pm CST.

Open Labs reserves the right to change or reschedule training sessions at its sole discretion.

Platinum Service How To & Usage Training Sessions do not include assistance with Virus or Spyware issues on your Open Labs hardware.

If you need additional How To & Usage Training Sessions, you can purchase additional sessions as long as your Open Labs hardware is still under the term of a Platinum Service Contract. Sessions are available in 1, 3, and 5 session bundles limited in length to 1 hour each session. Prices are as follows and are subject to change without notice:

1 Session (limit 1 Hr.) $99.00
3 Sessions (limit 1 Hr. each) $249.00
5 Sessions (limit 1 Hr. each) $349.00

Limited 3rd Party Software Support
Open Labs will provide "best effort" support and assistance on limited 3rd party software installed on your Open Labs hardware by an Open Labs specialist via phone, email, or remote diagnosis. Support is limited to the following 3rd party software:

- Pro Tools
- Cubase/Steinberg 'family'
- Sonar/Cakewalk 'family'
- Ableton Live
- Reason
- Sony Creative 'family'
- Native Instruments Komplete
- Waves
- Spectrasonics plug-ins
- WaveLab
- Fruity Loops/FLStudio
- And most VST instruments and virtual effects

By requesting Technical Support for third-party product, Customer represents and warrants that the copy of the third-party product is legally registered by the user and is a legally authorized copy of the third-party product for which support is requested. Open Labs reserves the right to change, add, or discontinue any 3rd party software support at its sole discretion.

Plus Access to Technical Support on Saturday

Open Labs will also provide access to technical support specialists via phone, email, or remote diagnosis for Platinum Service hardware customers on Saturdays as well as normal technical support hours of operation Monday – Friday between 10:00am – 7:00pm CST. This Saturday support is available during the term length of your Platinum Service contract. Platinum Service technical support assistance on Saturday is limited to Open Labs hardware & software issues as well as Platinum 3rd party support services. Training sessions are not available on Saturdays. Open Labs reserves the right to change the Saturday hours of operation at its sole discretion.

Refunds

Any return amount is subject to reduction based on a deduction for services rendered. The value of services rendered is based on a pro-rata of training sessions rendered ($69.80 each based on the 5 session bundle price) and the term length that has passed from the original purchase date of the Open Labs product.

Cancellation

Open Labs may cancel this Service at any time during the Service term if the Customer fails to pay the total price for this Service in accordance with the invoice terms; Customer fails to abide by the terms of this Service Description; or Customer's repeated misuse of this Service for out of scope issues. Open Labs may, at its discretion, terminate this Service on thirty (30) days notice to Customer, in which case Customer will be entitled to a pro-rated refund of any unearned fees for the Services that Customer paid either as a measure of time passage or time spent whichever is greater.

L e g a l

Open Labs, Inc. respects your privacy. We strive to keep your personal information confidential. As part of this effort we have created this Privacy Policy to let you know why we collect personal information, what kinds of information we collect when you visit our site, why we collect it and how it is used. By using our Web site, you consent to the data practices described in this Privacy Policy. This Privacy Policy applies only to this domestic Web site. This policy does not pertain to information otherwise obtained. Please take a moment to read this Privacy Policy to learn how we handle your personal information.

Why we collect personal information
Open Labs only uses your personal information in efforts to give you better customer service. For example, we may use your personal information to provide you with more convenient access to our products and services, and related third party products and services. Open Labs may enhance or merge information collected from Web site traffic with data from other sources.

What personal information
"Personal information" means any information that may be used to identify an individual, including, but not limited to, name, physical and e-mail address, phone number, or other contact information at home or work. In some areas of the Web site Open Labs may collect other information to enhance your site visit to assist you with technical support issues or to follow up with you after your visit. Typically, it is at your option to participate in providing such information. We also automatically receive and record information on our server logs from your browser, including your IP address, cookie information, and the pages you request. Generally your browser software should enable you to choose to restrict the information provided; however, this may limit your ability to take advantage of some of our service and support features.

This policy only concerns private information requested by Open Labs Web site. Your are solely responsible for maintaining the secrecy of your passwords or any account information. You should use caution whenever you are online.

How we collect personal information
We collect information about you in several ways. For example, we might ask for your contact information when you correspond with us, or call us to make a purchase or request service. In addition, when you register a new Open Labs product, or ask to be included in an email mailing list, we collect and store the information you provide in a secure database.

When we disclose personal information
Open Labs works with other companies that help us provide Open Labs products and services to you, and we may provide your personal information to these companies. For example, we give shipping companies this information so they can deliver your products efficiently. The information they receive is for shipping and delivery purposes only, and we require that the companies safeguard your personal information in accordance with Open Labs' policies.

At times, we may be required by law or legal process to disclose your personal information. We may also disclose information about you if we believe that disclosure is necessary for the public interest.

If you do not want to receive promotional information from Open Labs, send an e-mail to unsubscribe.

How we protect your personal information
Open Labs safeguards the security of the data you send us with physical, electronic, and managerial procedures. We urge you to take every precaution to protect your personal data when you are on the Internet. Change your passwords often, use a combination of letters and numbers, and make sure you use a secure browser.

Access to your personal information
If you would like to review other personal information that Open Labs may have about you, send us an e-mail.

Collecting other Personal Information
In some of our e-mail to you, we use a "click-through URL." When you click one of these URLs, you pass through our Web server before arriving at the Web site that is your destination. We track click-throughs to help us determine your interest in particular topics and measure the effectiveness of our customer communications.

Open Labs' commitment to children's privacy
Open Labs does not knowingly solicit personal information from children or send them requests for personal information. This site is not intended for or directed to persons under the age of 13. Continued use of the Web site represents to Open Labs that the user is at least 14-years-old.

Third-Party Sites
Open Labs' Web site contains links to other sites. Open Labs does not share your personal information with those Web sites and is not responsible for their privacy practices. We encourage you to learn about the privacy policies of those companies.

International Transfers
Personal information collected on the Open Labs Site may be stored and processed in the United States or any other country in which Open Labs does business.

The Open Labs Customer Privacy Policy is subject to change at any time. We encourage you to review the privacy policy regularly for any changes. It is your responsibility to review this page periodically for any updates. Your continued use of the Web site constitutes your agreement to the Privacy Policy and any updates to the policy.

For questions or comments regarding this Privacy Policy, please send us an email.

N o t i c e s

Typographical Errors
Open Labs is not responsible for typographical, pricing, product information, advertising, shipping errors or for orders lost/delayed through server downtime. In the event of an incorrect price due to typographical error, www.openlabs.com shall have the right to refuse or cancel any orders placed for product listed at the incorrect price. If you believe you have found an error on our website or printed material, please contact us.

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WAIVER
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